



900 Magazine Rd.  
Petersburg, VA 23803  
Office: (804) 861-0111  
Fax: (804) 861-3254

May 4, 2011

RECEIVED  
MAY 09 2011  
PRO

Andrew Hammond  
Piedmont Regional Office  
4949-A Cox Road  
Glen Allen, VA 23060

**Re: VPDES Permit Renewal Application – VA0025437**

Dear Mr. Hammond:

Please find enclosed our VPDES Permit Application for renewal of the  
aforementioned permit. Enclosed with this letter are the following documents:

- EPA Form 2A, including the following supplemental documents:
  - Information for item A.4
  - Footnotes for Part D
  - DEQ Attachment A
  - Part F information for each SIU discharging to our service area
  - A plan sheet of the influent bar screen showing where the influent lines connect to our facility
  - A plan sheet showing our process flow
  - A liquid process flow diagram with a water balance
  - An overall site plan showing our influent and effluent structures
  - Four (4) USGS quad sheets showing the location of the SCWWA facility in relation to the surrounding area
  - The VPDES Permit Application Addendum
  - Outside laboratory documentation for any parameters not tested in-house
- VPDES Sewage Sludge Application Form, including the following supplemental documents
  - A copy of our 2011 permit for solids disposal at Hopewell Regional WWTF
  - A copy of our current contract with Recyc Systems, our land application contractor
  - A solids process flow diagram
  - Footnotes for item A.8
  - A sludge management plan, including a description of how we achieve vector attraction and pathogen reduction

- Four (4) USGS quad sheets showing the location of the SCWWA facility in relation to the surrounding area
- DEQ Public Notice Billing Information form

Please let me know if you need anything further. I can be reached at (804) 861-0111 x202 or via e-mail at [aharrison@scwwa.org](mailto:aharrison@scwwa.org).

Sincerely,



L. Alan Harrison, P.E.  
Assistant Executive Director

Enclosure

Cc: Ray Burpoe, Operations Manager, SCWWA  
Christina Stokes, Laboratory/Pretreatment Manager, SCWWA

FORM  
**2A**  
NPDES

## NPDES FORM 2A APPLICATION OVERVIEW

### APPLICATION OVERVIEW

Form 2A has been developed in a modular format and consists of a "Basic Application Information" packet and a "Supplemental Application Information" packet. The Basic Application Information packet is divided into two parts. All applicants must complete Parts A and C. Applicants with a design flow greater than or equal to 0.1 mgd must also complete Part B. Some applicants must also complete the Supplemental Application Information packet. The following items explain which parts of Form 2A you must complete.

#### BASIC APPLICATION INFORMATION:

- A. Basic Application Information for all Applicants.** All applicants must complete questions A.1 through A.8. A treatment works that discharges effluent to surface waters of the United States must also answer questions A.9 through A.12.
- B. Additional Application Information for Applicants with a Design Flow  $\geq 0.1$  mgd.** All treatment works that have design flows greater than or equal to 0.1 million gallons per day must complete questions B.1 through B.6.
- C. Certification.** All applicants must complete Part C (Certification).

#### SUPPLEMENTAL APPLICATION INFORMATION:

- D. Expanded Effluent Testing Data.** A treatment works that discharges effluent to surface waters of the United States and meets one or more of the following criteria must complete Part D (Expanded Effluent Testing Data):
  - 1. Has a design flow rate greater than or equal to 1 mgd,
  - 2. Is required to have a pretreatment program (or has one in place), or
  - 3. Is otherwise required by the permitting authority to provide the information.
- E. Toxicity Testing Data.** A treatment works that meets one or more of the following criteria must complete Part E (Toxicity Testing Data):
  - 1. Has a design flow rate greater than or equal to 1 mgd,
  - 2. Is required to have a pretreatment program (or has one in place), or
  - 3. Is otherwise required by the permitting authority to submit results of toxicity testing.
- F. Industrial User Discharges and RCRA/CERCLA Wastes.** A treatment works that accepts process wastewater from any significant industrial users (SIUs) or receives RCRA or CERCLA wastes must complete Part F (Industrial User Discharges and RCRA/CERCLA Wastes). SIUs are defined as:
  - 1. All industrial users subject to Categorical Pretreatment Standards under 40 Code of Federal Regulations (CFR) 403.6 and 40 CFR Chapter I, Subchapter N (see instructions); and
  - 2. Any other industrial user that:
    - a. Discharges an average of 25,000 gallons per day or more of process wastewater to the treatment works (with certain exclusions); or
    - b. Contributes a process wastestream that makes up 5 percent or more of the average dry weather hydraulic or organic capacity of the treatment plant; or
    - c. Is designated as an SIU by the control authority.
- G. Combined Sewer Systems.** A treatment works that has a combined sewer system must complete Part G (Combined Sewer Systems).

**ALL APPLICANTS MUST COMPLETE PART C (CERTIFICATION)**

FACILITY NAME AND PERMIT NUMBER:  
SOUTH CENTRAL WASTEWATER AUTHORITY - VA0025437

Form Approved 1/14/99  
OMB Number 2040-0086

## BASIC APPLICATION INFORMATION

### PART A. BASIC APPLICATION INFORMATION FOR ALL APPLICANTS:

All treatment works must complete questions A.1 through A.8 of this Basic Application Information packet.

#### A.1. Facility Information.

Facility name SOUTH CENTRAL WASTEWATER AUTHORITY

Mailing Address 900 MAGAZINE RD., PETERSBURG, VA 23803

Contact person L. ALAN HARRISON, P.E.

Title ASSISTANT EXECUTIVE DIRECTOR

Telephone number (804) 861-0111

Facility Address 900 MAGAZINE RD., PETERSBURG, VA 23803  
(not P.O. Box)

#### A.2. Applicant Information. If the applicant is different from the above, provide the following:

Applicant name \_\_\_\_\_

Mailing Address \_\_\_\_\_

Contact person \_\_\_\_\_

Title \_\_\_\_\_

Telephone number \_\_\_\_\_

Is the applicant the owner or operator (or both) of the treatment works?

☒ owner ☒ operator

Indicate whether correspondence regarding this permit should be directed to the facility or the applicant.

☒ facility ☐ applicant

#### A.3. Existing Environmental Permits. Provide the permit number of any existing environmental permits that have been issued to the treatment works (include state-issued permits).

NPDES VA0025437 PSD \_\_\_\_\_

UIC \_\_\_\_\_ Other \_\_\_\_\_

RCRA VAD988193462 Other \_\_\_\_\_

#### A.4. Collection System Information. Provide information on municipalities and areas served by the facility. Provide the name and population of each entity and, if known, provide information on the type of collection system (combined vs. separate) and its ownership (municipal, private, etc.).

Name	Population Served	Type of Collection System	Ownership
<u>SEE ATTACHED</u>	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
Total population served	_____		



## FACILITY NAME AND PERMIT NUMBER:

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SOUTH CENTRAL WASTEWATER AUTHORITY - VA0025437

## A.5. Indian Country.

- a. Is the treatment works located in Indian Country?

☐ Yes ☒ No

- b. Does the treatment works discharge to a receiving water that is either in Indian Country or that is upstream from (and eventually flows through) Indian Country?

☐ Yes ☒ No

## A.6. Flow. Indicate the design flow rate of the treatment plant (i.e., the wastewater flow rate that the plant was built to handle). Also provide the average daily flow rate and maximum daily flow rate for each of the last three years. Each year's data must be based on a 12-month time period with the 12th month of "this year" occurring no more than three months prior to this application submittal.

- a. Design flow rate
- 23
- mgd

	<u>Two Years Ago</u>	<u>Last Year</u>	<u>This Year</u>
b. Annual average daily flow rate	<u>11.89</u>	<u>12.14</u>	<u>10.98</u> mgd
c. Maximum daily flow rate	<u>35.84</u>	<u>45.81</u>	<u>40.58</u> mgd

## A.7. Collection System. Indicate the type(s) of collection system(s) used by the treatment plant. Check all that apply. Also estimate the percent contribution (by miles) of each.

☒ Separate sanitary sewer 100 %  
☐ Combined storm and sanitary sewer \_\_\_\_\_ %

## A.8. Discharges and Other Disposal Methods.

- a. Does the treatment works discharge effluent to waters of the U.S.?
- ☒
- Yes
- ☐
- No

If yes, list how many of each of the following types of discharge points the treatment works uses:

i. Discharges of treated effluent 1  
ii. Discharges of untreated or partially treated effluent 0  
iii. Combined sewer overflow points 0  
iv. Constructed emergency overflows (prior to the headworks) 0  
v. Other 0

- b. Does the treatment works discharge effluent to basins, ponds, or other surface impoundments that do not have outlets for discharge to waters of the U.S.?

☐ Yes ☒ No

If yes, provide the following for each surface impoundment:

Location: \_\_\_\_\_

Annual average daily volume discharged to surface impoundment(s) \_\_\_\_\_ mgd

Is discharge \_\_\_\_\_ continuous or \_\_\_\_\_ intermittent?

- c. Does the treatment works land-apply treated wastewater?

☐ Yes ☒ No

If yes, provide the following for each land application site:

Location: \_\_\_\_\_

Number of acres: \_\_\_\_\_

Annual average daily volume applied to site: \_\_\_\_\_ Mgd

Is land application \_\_\_\_\_ continuous or \_\_\_\_\_ intermittent?

- d. Does the treatment works discharge or transport treated or untreated wastewater to another treatment works?

☐ Yes ☒ No

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If yes, describe the mean(s) by which the wastewater from the treatment works is discharged or transported to the other treatment works (e.g., tank truck, pipe).

If transport is by a party other than the applicant, provide:

Transporter name: \_\_\_\_\_

Mailing Address: \_\_\_\_\_  
\_\_\_\_\_

Contact person: \_\_\_\_\_

Title: \_\_\_\_\_

Telephone number: \_\_\_\_\_

For each treatment works that receives this discharge, provide the following:

Name: \_\_\_\_\_

Mailing Address: \_\_\_\_\_  
\_\_\_\_\_

Contact person: \_\_\_\_\_

Title: \_\_\_\_\_

Telephone number: \_\_\_\_\_

If known, provide the NPDES permit number of the treatment works that receives this discharge. \_\_\_\_\_

Provide the average daily flow rate from the treatment works into the receiving facility. \_\_\_\_\_

mgd

- e. Does the treatment works discharge or dispose of its wastewater in a manner not included in A.8.a through A.8.d above (e.g., underground percolation, well injection)?

\_\_\_\_\_ Yes

\_\_\_\_\_ ☒ No

If yes, provide the following for each disposal method:

Description of method (including location and size of site(s) if applicable):

Annual daily volume disposed of by this method: \_\_\_\_\_

Is disposal through this method \_\_\_\_\_

continuous or

\_\_\_\_\_ intermittent?

## FACILITY NAME AND PERMIT NUMBER:

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## WASTEWATER DISCHARGES:

If you answered "yes" to question A.8.a, complete questions A.9 through A.12 once for each outfall (including bypass points) through which effluent is discharged. Do not include information on combined sewer overflows in this section. If you answered "no" to question A.8.a, go to Part B, "Additional Application Information for Applicants with a Design Flow Greater than or Equal to 0.1 mgd."

## A.9. Description of Outfall.

- a. Outfall number 001
- b. Location PETERSBURG 23803  
(City or town, if applicable) (Zip Code)  
VA  
(County) (State)  
37 deg 14' 22" N 77 deg 23' 34" W  
(Latitude) (Longitude)
- c. Distance from shore (if applicable) NA ft.
- d. Depth below surface (if applicable) NA ft.
- e. Average daily flow rate 12.15 mgd
- f. Does this outfall have either an intermittent or a periodic discharge?  
Yes ☒ No (go to A.9.g.)
- If yes, provide the following information:
- Number of times per year discharge occurs: \_\_\_\_\_
- Average duration of each discharge: \_\_\_\_\_
- Average flow per discharge: \_\_\_\_\_ mgd
- Months in which discharge occurs: \_\_\_\_\_
- g. Is outfall equipped with a diffuser? Yes ☒ No

## A.10. Description of Receiving Waters.

- a. Name of receiving water APPOMATTOX RIVER
- b. Name of watershed (if known) JAMES RIVER  
United States Soil Conservation Service 14-digit watershed code (if known): \_\_\_\_\_
- c. Name of State Management/River Basin (if known): JAMES RIVER (LOWER)  
United States Geological Survey 8-digit hydrologic cataloging unit code (if known): \_\_\_\_\_
- d. Critical low flow of receiving stream (if applicable):  
acute N/A cfs chronic N/A cfs
- e. Total hardness of receiving stream at critical low flow (if applicable): N/A mg/l of CaCO<sub>3</sub>

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**A.11. Description of Treatment.**

a. What levels of treatment are provided? Check all that apply.

☒ Primary ☒ Secondary  
☐ Advanced ☐ Other. Describe: \_\_\_\_\_

b. Indicate the following removal rates (as applicable):

Design BOD<sub>5</sub> removal or Design CBOD<sub>5</sub> removal 98 %  
Design SS removal 93 %  
Design P removal 79 %  
Design N removal N/A %  
Other NH<sub>3</sub>-N 94 %

Hydraulic drop  
after parshall  
flume

c. What type of disinfection is used for the effluent from this outfall? If disinfection varies by season, please describe.

SODIUM HYPOCHLORITE

If disinfection is by chlorination, is dechlorination used for this outfall? ☒ Yes ☐ No

d. Does the treatment plant have post aeration? ☒ Yes ☐ No

**A.12. Effluent Testing Information.** All Applicants that discharge to waters of the US must provide effluent testing data for the following parameters. Provide the indicated effluent testing required by the permitting authority for each outfall through which effluent is discharged. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analysis conducted using 40 CFR Part 136 methods. In addition, this data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136. At a minimum, effluent testing data must be based on at least three samples and must be no more than four and one-half years apart.

Outfall number: 001

PARAMETER	MAXIMUM DAILY VALUE		AVERAGE DAILY VALUE		
	Value	Units	Value	Units	Number of Samples
pH (Minimum)	6.00	s.u.			
pH (Maximum)	8.30	s.u.			
Flow Rate	40.58	MGD	11.73	MGD	365
Temperature (Winter)	23.90	C	15.94	C	210 (11/1-5/31)
Temperature (Summer)	29.10	C	25.9	C	150 (6/1-10/31)

\* For pH please report a minimum and a maximum daily value

POLLUTANT	MAXIMUM DAILY DISCHARGE		AVERAGE DAILY DISCHARGE			ANALYTICAL METHOD	ML / MDL
	Conc.	Units	Conc.	Units	Number of Samples		

**CONVENTIONAL AND NONCONVENTIONAL COMPOUNDS.**

BIOCHEMICAL OXYGEN DEMAND (Report one)	BOD-5	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	CBOD-5	<5	mg/l	<5	mg/l	156	SM18-5210B	5 mg/l
FECAL COLIFORM		613.1	cfu/100 ml	71.8	cfu/100 ml	196	Colilert-18	1 cfu/100 ml
TOTAL SUSPENDED SOLIDS (TSS)		4.7	mg/l	1.4	mg/l	13	SM18-2540D	1.0 mg/l

**END OF PART A.**

**REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE**

FACILITY NAME AND PERMIT NUMBER:

SOUTH CENTRAL WASTEWATER AUTHORITY - VA0025437

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## BASIC APPLICATION INFORMATION

### PART B. ADDITIONAL APPLICATION INFORMATION FOR APPLICANTS WITH A DESIGN FLOW GREATER THAN OR EQUAL TO 0.1 MGD (100,000 gallons per day).

All applicants with a design flow rate  $\geq 0.1$  mgd must answer questions B.1 through B.6. All others go to Part C (Certification).

**B.1. Inflow and Infiltration.** Estimate the average number of gallons per day that flow into the treatment works from inflow and/or infiltration.

2,000,000 gpd

Estimated based on diff. between typical dry & normal weather flows

Briefly explain any steps underway or planned to minimize inflow and infiltration.

The jurisdictions served by the Authority are responsible for thier own I/I mitigation programs.

**B.2. Topographic Map.** Attach to this application a topographic map of the area extending at least one mile beyond facility property boundaries. This map must show the outline of the facility and the following information. (You may submit more than one map if one map does not show the entire area.)

- The area surrounding the treatment plant, including all unit processes.
- The major pipes or other structures through which wastewater enters the treatment works and the pipes or other structures through which treated wastewater is discharged from the treatment plant. Include outfalls from bypass piping, if applicable.
- Each well where wastewater from the treatment plant is injected underground.
- Wells, springs, other surface water bodies, and drinking water wells that are: 1) within 1/4 mile of the property boundaries of the treatment works, and 2) listed in public record or otherwise known to the applicant.
- Any areas where the sewage sludge produced by the treatment works is stored, treated, or disposed.
- If the treatment works receives waste that is classified as hazardous under the Resource Conservation and Recovery Act (RCRA) by truck, rail, or special pipe, show on the map where that hazardous waste enters the treatment works and where it is treated, stored, and/or disposed.

**B.3. Process Flow Diagram or Schematic.** Provide a diagram showing the processes of the treatment plant, including all bypass piping and all backup power sources or redundancy in the system. Also provide a water balance showing all treatment units, including disinfection (e.g, chlorination and dechlorination). The water balance must show daily average flow rates at influent and discharge points and approximate daily flow rates between treatment units. Include a brief narrative description of the diagram.

#### B.4. Operation/Maintenance Performed by Contractor(s).

Are any operational or maintenance aspects (related to wastewater treatment and effluent quality) of the treatment works the responsibility of a contractor? ☐ Yes ☒ No

If yes, list the name, address, telephone number, and status of each contractor and describe the contractor's responsibilities (attach additional pages if necessary).

Name: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

Telephone Number: \_\_\_\_\_

Responsibilities of Contractor: \_\_\_\_\_

**B.5. Scheduled Improvements and Schedules of Implementation.** Provide information on any uncompleted implementation schedule or uncompleted plans for improvements that will affect the wastewater treatment, effluent quality, or design capacity of the treatment works. If the treatment works has several different implementation schedules or is planning several improvements, submit separate responses to question B.5 for each. (If none, go to question B.6.)

- a. List the outfall number (assigned in question A.9) for each outfall that is covered by this implementation schedule.

001

- b. Indicate whether the planned improvements or implementation schedule are required by local, State, or Federal agencies.

☐ Yes ☒ No

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- c. If the answer to B.5.b is "Yes," briefly describe, including new maximum daily inflow rate (if applicable).

- d. Provide dates imposed by any compliance schedule or any actual dates of completion for the implementation steps listed below, as applicable. For improvements planned independently of local, State, or Federal agencies, indicate planned or actual completion dates, as applicable. Indicate dates as accurately as possible.

Implementation Stage	Schedule MM / DD / YYYY	Actual Completion MM / DD / YYYY
- Begin construction	___/___/___	___/___/___
- End construction	___/___/___	___/___/___
- Begin discharge	___/___/___	___/___/___
- Attain operational level	___/___/___	___/___/___

**Nutrient reduction upgrade designed. Project on hold pending SCWWA Board decision on when to perform additional design and to bid.**

- e. Have appropriate permits/clearances concerning other Federal/State requirements been obtained? ☐ Yes ☐ No

Describe briefly: \_\_\_\_\_

**B.6. EFFLUENT TESTING DATA (GREATER THAN 0.1 MGD ONLY).**

Applicants that discharge to waters of the US must provide effluent testing data for the following parameters. Provide the indicated effluent testing required by the permitting authority for each outfall through which effluent is discharged. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analysis conducted using 40 CFR Part 136 methods. In addition, this data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136. At a minimum, effluent testing data must be based on at least three pollutant scans and must be no more than four and one-half years old.

Outfall Number: 001

POLLUTANT	MAXIMUM DAILY DISCHARGE		AVERAGE DAILY DISCHARGE			ANALYTICAL METHOD	ML / MDL
	Conc.	Units	Conc.	Units	Number of Samples		
CONVENTIONAL AND NONCONVENTIONAL COMPOUNDS.							
AMMONIA (as N)	2.44	mg/l	0.154	mg/l	157	SM18-4500NH3F	0.20 mg/l
CHLORINE (TOTAL RESIDUAL, TRC)	<0.08	mg/l	<0.01	mg/l	365	HACH 8167	0.10 mg/l
DISSOLVED OXYGEN	11.5	mg/l	8.55	mg/l	365	SM18-4500 O-G	
TOTAL KJELDAHL NITROGEN (TKN)	3.3	mg/l	<1.1	mg/l	157	EPA 351.2	0.50 mg/l
NITRATE PLUS NITRITE NITROGEN	17.7	mg/l	10.75	mg/l	157	SM18-4500NO3F	0.50 mg/l
OIL and GREASE	<5.0	mg/l	<5.0	mg/l	3	EPA 1664	5.0 mg/l
PHOSPHORUS (Total)	8.40	mg/l	1.25	mg/l	169	HACH 8190,8048	0.10 mg/l
TOTAL DISSOLVED SOLIDS (TDS)	343	mg/l	307.7	mg/l	3	SM18/2540C	10 mg/l
OTHER							

**END OF PART B.**

**REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE**

**FACILITY NAME AND PERMIT NUMBER:**

SOUTH CENTRAL WASTEWATER AUTHORITY - VA0025437

Form Approved 1/14/99  
OMB Number 2040-0086**BASIC APPLICATION INFORMATION****PART C. CERTIFICATION**

All applicants must complete the Certification Section. Refer to instructions to determine who is an officer for the purposes of this certification. All applicants must complete all applicable sections of Form 2A, as explained in the Application Overview. Indicate below which parts of Form 2A you have completed and are submitting. By signing this certification statement, applicants confirm that they have reviewed Form 2A and have completed all sections that apply to the facility for which this application is submitted.

**Indicate which parts of Form 2A you have completed and are submitting:**

Basic Application Information packet

Supplemental Application Information packet:



Part D (Expanded Effluent Testing Data)



Part E (Toxicity Testing: Biomonitoring Data)



Part F (Industrial User Discharges and RCRA/CERCLA Wastes)



Part G (Combined Sewer Systems)

**ALL APPLICANTS MUST COMPLETE THE FOLLOWING CERTIFICATION.**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name and official title L. ALAN HARRISON, P.E, ASSISTANT EXECUTIVE DIRECTORSignature Telephone number (804) 861-0111Date signed 5/4/11

Upon request of the permitting authority, you must submit any other information necessary to assess wastewater treatment practices at the treatment works or identify appropriate permitting requirements.

**SEND COMPLETED FORMS TO:**

## FACILITY NAME AND PERMIT NUMBER:

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SOUTH CENTRAL WASTEWATER AUTHORITY - VA0025437

## SUPPLEMENTAL APPLICATION INFORMATION

## PART D. EXPANDED EFFLUENT TESTING DATA

Refer to the directions on the cover page to determine whether this section applies to the treatment works.

**Effluent Testing: 1.0 mgd and Pretreatment Treatment Works.** If the treatment works has a design flow greater than or equal to 1.0 mgd or it has (or is required to have) a pretreatment program, or is otherwise required by the permitting authority to provide the data, then provide effluent testing data for the following pollutants. Provide the indicated effluent testing information and any other information required by the permitting authority for each outfall through which effluent is discharged. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analyses conducted using 40 CFR Part 136 methods. In addition, these data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136. Indicate in the blank rows provided below any data you may have on pollutants not specifically listed in this form. At a minimum, effluent testing data must be based on at least three pollutant scans and must be no more than four and one-half years old.

Outfall number: 001 (Complete once for each outfall discharging effluent to waters of the United States.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/ MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
<b>METALS (TOTAL RECOVERABLE), CYANIDE, PHENOLS, AND HARDNESS.</b>											
ANTIMONY	<100	ug/l	<10.9	lb/day	<86.7	ug/l	<8.17	lb/da	3	EPA 200.7	60 ug/l (1)
ARSENIC	<60	ug/l	<6.52	lb/day	<60	ug/l	<5.73	lb/da	3	EPA 200.7	60 ug/l
BERYLLIUM	<2.0	ug/l	<0.22	lb/day	<2.0	ug/l	<0.19	lb/da	3	EPA 200.7	2.0 ug/l
CADMIUM	<0.50	ug/l	<0.05	lb/day	<0.50	ug/l	<0.05	lb/da	3	EPA 200.8	0.5 ug/l
CHROMIUM	<10	ug/l	<1.09	lb/day	<10	ug/l	<0.96	lb/da	3	EPA 200.7	10 ug/l
COPPER	7	ug/l	0.76	lb/day	5.67	ug/l	0.57	lb/da	3	EPA 200.7	2 ug/l
LEAD	<2.0	ug/l	<0.22	lb/day	<2.0	ug/l	<0.19	lb/da	3	EPA 200.8	2.0 ug/l
MERCURY	<4.7	ng/l	<0.49	*	<3.57	ng/l	<0.35	*	3	EPA 245.7	2.0 ng/l (2)
NICKEL	<10	ug/l	<1.09	lb/day	<10	ug/l	<0.96	lb/da	3	EPA 200.7	10 ug/l
SELENIUM	<2.0	ug/l	<0.22	lb/day	<2.0	ug/l	<0.19	lb/da	3	EPA 200.8	2.0 ug/l
SILVER	<0.50	ug/l	<0.05	lb/day	<0.50	ug/l	<0.05	lb/da	3	EPA 200.8	0.50 ug/l
THALLIUM	<40	ug/l	<4.35	lb/day	<40	ug/l	<3.82	lb/da	3	EPA 200.7	40 ug/l
ZINC	41	ug/l	4.46	lb/day	39	ug/l	3.76	lb/da	3	EPA 200.7	20.0 ug/l
CYANIDE	<15	ug/l	<1.11	lb/day	<12	ug/l	<1.08	lb/da	3	EPA 335.4	10 ug/l
TOTAL PHENOLIC COMPOUNDS	<10	ug/l	<1.09	lb/day	<10	ug/l	<0.96	lb/da	3	EPA 625	10.0 ug/l
HARDNESS (AS CaCO <sub>3</sub> )	56.90	mg/l	5899	lb/day	54.33	mg/l	5197	lb/da	3	SM 2340 B	0.1 mg/l (3)
Use this space (or a separate sheet) to provide information on other metals requested by the permit writer.											
* mercury units 1/1000 lbs/day											



**FACILITY NAME AND PERMIT NUMBER:**  
SOUTH CENTRAL WASTEWATER AUTHORITY - VA0025437

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Outfall number: \_\_\_\_\_ (Complete once for each outfall discharging effluent to waters of the United States.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/ MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
VOLATILE ORGANIC COMPOUNDS.											
ACROLEIN	<50.0	ug/l	<5.43	lb/day	<26.7	ug/l	<2.65	lb/da	3	EPA 624	10 ug/l (4)
ACRYLONITRILE	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 624	10 ug/l
BENZENE	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 624	10 ug/l
BROMOFORM	<83.9	ug/l	<6.23	lb/day	<41.7	ug/l	<3.55	lb/da	3	EPA 624	10 ug/l
CARBON TETRACHLORIDE	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 624	10 ug/l
CLOROBENZENE	<10.0	ug/l	<1.04	lb/day	<10.0	ug/l	<0.59	lb/da	2	EPA 624	10 ug/l
CHLORODIBROMO-METHANE	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 624	10 ug/l
CHLOROETHANE	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 624	10 ug/l
2-CHLORO-ETHYL VINYL ETHER	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 625	10 ug/l
CHLOROFORM	<16.8	ug/l	<1.74	lb/day	<12.3	ug/l	<1.19	lb/da	3	EPA 624	10 ug/l
DICHLOROBROMO-METHANE	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 624	10 ug/l
1,1-DICHLOROETHANE	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 624	10 ug/l
1,2-DICHLOROETHANE	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 624	10 ug/l
TRANS-1,2-DICHLORO-ETHYLENE	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 624	10 ug/l
1,1-DICHLOROETHYLENE	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 624	10 ug/l
1,2-DICHLOROPROPANE	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 624	10 ug/l
1,3-DICHLORO-PROPYLENE	<20.0	ug/l	<2.17	lb/day	<20.0	ug/l	<1.91	lb/da	3	EPA 624	20 ug/l
ETHYLBENZENE	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 624	10 ug/l
METHYL BROMIDE	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 624	10 ug/l
METHYL CHLORIDE	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 624	10 ug/l
METHYLENE CHLORIDE	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 624	10 ug/l
1,1,2,2-TETRACHLORO-ETHANE	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 624	10 ug/l
TETRACHLORO-ETHYLENE	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 624	10 ug/l
TOLUENE	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 624	10 ug/l

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Outfall number: \_\_\_\_\_ (Complete once for each outfall discharging effluent to waters of the United States.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/ MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
1,1,1-TRICHLOROETHANE	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 624	10 ug/l
1,1,2-TRICHLOROETHANE	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 624	10 ug/l
TRICHLORETHYLENE	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 624	10 ug/l
VINYL CHLORIDE	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 624	10 ug/l

Use this space (or a separate sheet) to provide information on other volatile organic compounds requested by the permit writer.

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## ACID-EXTRACTABLE COMPOUNDS

P-CHLORO-M-CRESOL	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 625	10 ug/l
2-CHLOROPHENOL	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 625	10 ug/l
2,4-DICHLOROPHENOL	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 625	10 ug/l
2,4-DIMETHYLPHENOL	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 625	10 ug/l
4,6-DINITRO-O-CRESOL	<20.0	ug/l	<2.07	lb/day	<13.3	ug/l	<1.30	lb/da	3	EPA 625	10 ug/l (5)
2,4-DINITROPHENOL	<20.0	ug/l	<2.07	lb/day	<13.3	ug/l	<1.30	lb/da	3	EPA 625	10 ug/l (6)
2-NITROPHENOL	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 625	10 ug/l
4-NITROPHENOL	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 625	10 ug/l
PENTACHLOROPHENOL	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 625	10 ug/l
PHENOL	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 625	10 ug/l
2,4,6-TRICHLOROPHENOL	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 625	10 ug/l

Use this space (or a separate sheet) to provide information on other acid-extractable compounds requested by the permit writer.

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## BASE-NEUTRAL COMPOUNDS.

ACENAPHTHENE	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 625	10 ug/l
ACENAPHTHYLENE	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 625	10 ug/l
ANTHRACENE	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 625	10 ug/l
BENZIDINE	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 625	10 ug/l
BENZO(A)ANTHRACENE	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 625	10 ug/l
BENZO(A)PYRENE	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 625	10 ug/l

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Outfall number: \_\_\_\_\_ (Complete once for each outfall discharging effluent to waters of the United States.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/ MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
3,4 BENZO-FLUORANTHENE	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<1.06	lb/da	2	EPA 625	10 ug/l
BENZO(GHI)PERYLENE	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 625	10 ug/l
BENZO(K)FLUORANTHENE	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 625	10 ug/l
BIS (2-CHLOROETHOXY) METHANE	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 625	10 ug/l
BIS (2-CHLOROETHYL)-ETHER	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 625	10 ug/l
BIS (2-CHLOROISO-PROPYL) ETHER	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 625	10 ug/l
BIS (2-ETHYLHEXYL) PHTHALATE	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.92	lb/da	2	EPA 625	10 ug/l
4-BROMOPHENYL PHENYL ETHER	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 625	10 ug/l
BUTYL BENZYL PHTHALATE	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 625	10 ug/l
2-CHLORONAPHTHALENE	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 625	10 ug/l
4-CHLORPHENYL PHENYL ETHER	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 625	10 ug/l
CHRYSENE	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 625	10 ug/l
DI-N-BUTYL PHTHALATE	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 625	10 ug/l
DI-N-OCTYL PHTHALATE	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 625	10 ug/l
DIBENZO(A,H) ANTHRACENE	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 625	10 ug/l
1,2-DICHLOROBENZENE	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 624	10 ug/l
1,3-DICHLOROBENZENE	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 624	10 ug/l
1,4-DICHLOROBENZENE	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 624	10 ug/l
3,3-DICHLOROBENZIDINE	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 625	10 ug/l
DIETHYL PHTHALATE	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 625	10 ug/l
DIMETHYL PHTHALATE	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 625	10 ug/l
2,4-DINITROTOLUENE	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 625	10 ug/l
2,6-DINITROTOLUENE	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 625	10 ug/l
1,2-DIPHENYLHYDRAZINE	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 625	10 ug/l

## FACILITY NAME AND PERMIT NUMBER:

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Outfall number: \_\_\_\_\_ (Complete once for each outfall discharging effluent to waters of the United States.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/ MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
FLUORANTHENE	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 625	10 ug/l
FLUORENE	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 625	10 ug/l
HEXACHLOROBENZENE	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 625	10 ug/l
HEXACHLOROBUTADIENE	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 625	10 ug/l
HEXACHLOROCYCLO-PENTADIENE	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 625	10 ug/l
HEXACHLOROETHANE	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 625	10 ug/l
INDENO(1,2,3-CD)PYRENE	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 625	10 ug/l
ISOPHORONE	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 625	10 ug/l
NAPHTHALENE	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 625	10 ug/l
NITROBENZENE	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 625	10 ug/l
N-NITROSODI-N-PROPYLAMINE	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 625	10 ug/l
N-NITROSODI- METHYLAMINE	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 625	10 ug/l
N-NITROSODI-PHENYLAMINE	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 625	10 ug/l
PHENANTHRENE	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 625	10 ug/l
PYRENE	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 625	10 ug/l
1,2,4-TRICHLOROBENZENE	<10.0	ug/l	<1.09	lb/day	<10.0	ug/l	<0.96	lb/da	3	EPA 625	10 ug/l

Use this space (or a separate sheet) to provide information on other base-neutral compounds requested by the permit writer.

Use this space (or a separate sheet) to provide information on other pollutants (e.g., pesticides) requested by the permit writer.

**END OF PART D.**  
**REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE**

**FACILITY NAME AND PERMIT NUMBER:**

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Form Approved 1/14/99  
OMB Number 2040-0086**SUPPLEMENTAL APPLICATION INFORMATION****PART E. TOXICITY TESTING DATA**

POTWs meeting one or more of the following criteria must provide the results of whole effluent toxicity tests for acute or chronic toxicity for each of the facility's discharge points: 1) POTWs with a design flow rate greater than or equal to 1.0 mgd; 2) POTWs with a pretreatment program (or those that are required to have one under 40 CFR Part 403); or 3) POTWs required by the permitting authority to submit data for these parameters.

- At a minimum, these results must include quarterly testing for a 12-month period within the past 1 year using multiple species (minimum of two species), or the results from four tests performed at least annually in the four and one-half years prior to the application, provided the results show no appreciable toxicity, and testing for acute and/or chronic toxicity, depending on the range of receiving water dilution. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analysis conducted using 40 CFR Part 136 methods. In addition, this data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136.
- In addition, submit the results of any other whole effluent toxicity tests from the past four and one-half years. If a whole effluent toxicity test conducted during the past four and one-half years revealed toxicity, provide any information on the cause of the toxicity or any results of a toxicity reduction evaluation, if one was conducted.
- If you have already submitted any of the information requested in Part E, you need not submit it again. Rather, provide the information requested in question E.4 for previously submitted information. If EPA methods were not used, report the reasons for using alternate methods. If test summaries are available that contain all of the information requested below, they may be submitted in place of Part E.

If no biomonitoring data is required, do not complete Part E. Refer to the Application Overview for directions on which other sections of the form to complete.

**E.1. Required Tests.**

Indicate the number of whole effluent toxicity tests conducted in the past four and one-half years.

\_\_\_\_\_ chronic \_\_\_\_\_ acute

**E.2. Individual Test Data.** Complete the following chart for each whole effluent toxicity test conducted in the last four and one-half years. Allow one column per test (where each species constitutes a test). Copy this page if more than three tests are being reported.

Test number: \_\_\_\_\_ Test number: \_\_\_\_\_ Test number: \_\_\_\_\_

**a. Test information.**

Test species & test method number			
Age at initiation of test			
Outfall number			
Dates sample collected			
Date test started			
Duration			

**b. Give toxicity test methods followed.**

Manual title			
Edition number and year of publication			
Page number(s)			

**c. Give the sample collection method(s) used. For multiple grab samples, indicate the number of grab samples used.**

24-Hour composite			
Grab			

**d. Indicate where the sample was taken in relation to disinfection. (Check all that apply for each)**

Before disinfection			
After disinfection			
After dechlorination			

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Test number: \_\_\_\_\_ Test number: \_\_\_\_\_ Test number: \_\_\_\_\_

e. Describe the point in the treatment process at which the sample was collected.

Sample was collected:

f. For each test, include whether the test was intended to assess chronic toxicity, acute toxicity, or both.

Chronic toxicity

Acute toxicity

g. Provide the type of test performed.

Static

Static-renewal

Flow-through

h. Source of dilution water. If laboratory water, specify type; if receiving water, specify source.

Laboratory water

Receiving water

i. Type of dilution water. If salt water, specify "natural" or type of artificial sea salts or brine used.

Fresh water

Salt water

j. Give the percentage effluent used for all concentrations in the test series.

k. Parameters measured during the test. (State whether parameter meets test method specifications)

pH

Salinity

Temperature

Ammonia

Dissolved oxygen

l. Test Results.

Acute:

Percent survival in 100%  
effluent

%

%

%

LC<sub>50</sub>

95% C.I.

%

%

%

Control percent survival

%

%

%

Other (describe)

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Chronic:

NOEC	%	%	%
IC <sub>25</sub>	%	%	%
Control percent survival	%	%	%
Other (describe)			

m. Quality Control/Quality Assurance.

Is reference toxicant data available?			
Was reference toxicant test within acceptable bounds?			
What date was reference toxicant test run (MM/DD/YYYY)?			
Other (describe)			

**E.3. Toxicity Reduction Evaluation.** Is the treatment works involved in a Toxicity Reduction Evaluation?

     Yes ☒ No      If yes, describe: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**E.4. Summary of Submitted Biomonitoring Test Information.** If you have submitted biomonitoring test information, or information regarding the cause of toxicity, within the past four and one-half years, provide the dates the information was submitted to the permitting authority and a summary of the results.

Date submitted: \_\_\_\_\_ (MM/DD/YYYY)

Results provided  
12/5/08, 6/9/09, &  
4/8/10

Summary of results: (see instructions)

All results were within existing permit toxic parameters of NOEC 27% and TUc 3.7.  
\_\_\_\_\_

**END OF PART E.**  
**REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE.**

FACILITY NAME AND PERMIT NUMBER:  
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## SUPPLEMENTAL APPLICATION INFORMATION

### PART F. INDUSTRIAL USER DISCHARGES AND RCRA/CERCLA WASTES

All treatment works receiving discharges from significant industrial users or which receive RCRA, CERCLA, or other remedial wastes must complete Part F.

#### GENERAL INFORMATION:

F.1. **Pretreatment Program.** Does the treatment works have, or is it subject to, an approved pretreatment program?

☒ Yes ☐ No

F.2. **Number of Significant Industrial Users (SIUs) and Categorical Industrial Users (CIUs).** Provide the number of each of the following types of industrial users that discharge to the treatment works.

a. Number of non-categorical SIUs. 10

b. Number of CIUs. 4

#### SIGNIFICANT INDUSTRIAL USER INFORMATION:

Supply the following information for each SIU. If more than one SIU discharges to the treatment works, copy questions F.3 through F.8 and provide the information requested for each SIU.

F.3. **Significant Industrial User Information.** Provide the name and address of each SIU discharging to the treatment works. Submit additional pages as necessary.

Name: SEE ATTACHED SHEETS FOR F.3. TO F.8 FOR EACH SIU

Mailing Address: \_\_\_\_\_  
\_\_\_\_\_

F.4. **Industrial Processes.** Describe all of the industrial processes that affect or contribute to the SIU's discharge.

\_\_\_\_\_

F.5. **Principal Product(s) and Raw Material(s).** Describe all of the principal processes and raw materials that affect or contribute to the SIU's discharge.

Principal product(s): \_\_\_\_\_

Raw material(s): \_\_\_\_\_

F.6. **Flow Rate.**

a. **Process wastewater flow rate.** Indicate the average daily volume of process wastewater discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

\_\_\_\_\_ gpd ( ☐ continuous or ☐ intermittent)

b. **Non-process wastewater flow rate.** Indicate the average daily volume of non-process wastewater flow discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

\_\_\_\_\_ gpd ( ☐ continuous or ☐ intermittent)

F.7. **Pretreatment Standards.** Indicate whether the SIU is subject to the following:

a. Local limits ☐ Yes ☐ No

b. Categorical pretreatment standards ☐ Yes ☐ No

If subject to categorical pretreatment standards, which category and subcategory?

\_\_\_\_\_



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**F.8. Problems at the Treatment Works Attributed to Waste Discharged by the SIU.** Has the SIU caused or contributed to any problems (e.g., upsets, interference) at the treatment works in the past three years?

☐ Yes ☐ No If yes, describe each episode.

\_\_\_\_\_  
\_\_\_\_\_

**RCRA HAZARDOUS WASTE RECEIVED BY TRUCK, RAIL, OR DEDICATED PIPELINE:**

**F.9. RCRA Waste.** Does the treatment works receive or has it in the past three years received RCRA hazardous waste by truck, rail, or dedicated pipe? ☐ Yes ☒ No (go to F.12.)

**F.10. Waste Transport.** Method by which RCRA waste is received (check all that apply):

☐ Truck ☐ Rail ☐ Dedicated Pipe

**F.11. Waste Description.** Give EPA hazardous waste number and amount (volume or mass, specify units).

<u>EPA Hazardous Waste Number</u>	<u>Amount</u>	<u>Units</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____

**CERCLA (SUPERFUND) WASTEWATER, RCRA REMEDIATION/CORRECTIVE ACTION WASTEWATER, AND OTHER REMEDIAL ACTIVITY WASTEWATER:**

**F.12. Remediation Waste.** Does the treatment works currently (or has it been notified that it will) receive waste from remedial activities?

☐ Yes (complete F.13 through F.15.) ☒ No

Provide a list of sites and the requested information (F.13 - F.15.) for each current and future site.

**F.13. Waste Origin.** Describe the site and type of facility at which the CERCLA/RCRA/or other remedial waste originates (or is expected to originate in the next five years).

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**F.14. Pollutants.** List the hazardous constituents that are received (or are expected to be received). Include data on volume and concentration, if known. (Attach additional sheets if necessary).

\_\_\_\_\_  
\_\_\_\_\_

**F.15. Waste Treatment.**

a. Is this waste treated (or will it be treated) prior to entering the treatment works?

☐ Yes ☐ No

If yes, describe the treatment (provide information about the removal efficiency):

\_\_\_\_\_  
\_\_\_\_\_

b. Is the discharge (or will the discharge be) continuous or intermittent?

☐ Continuous ☐ Intermittent If intermittent, describe discharge schedule.

\_\_\_\_\_

**END OF PART F.**  
**REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE**

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## SUPPLEMENTAL APPLICATION INFORMATION

### PART G. COMBINED SEWER SYSTEMS

If the treatment works has a combined sewer system, complete Part G.

**G.1. System Map.** Provide a map indicating the following: (may be included with Basic Application Information)

- All CSO discharge points.
- Sensitive use areas potentially affected by CSOs (e.g., beaches, drinking water supplies, shellfish beds, sensitive aquatic ecosystems, and outstanding natural resource waters).
- Waters that support threatened and endangered species potentially affected by CSOs.

**G.2. System Diagram.** Provide a diagram, either in the map provided in G.1. or on a separate drawing, of the combined sewer collection system that includes the following information:

- Locations of major sewer trunk lines, both combined and separate sanitary.
- Locations of points where separate sanitary sewers feed into the combined sewer system.
- Locations of in-line and off-line storage structures.
- Locations of flow-regulating devices.
- Locations of pump stations.

### CSO OUTFALLS:

Complete questions G.3 through G.6 once for each CSO discharge point.

**G.3. Description of Outfall.**

- Outfall number \_\_\_\_\_
- Location  
(City or town, if applicable) \_\_\_\_\_ (Zip Code) \_\_\_\_\_  
(County) \_\_\_\_\_ (State) \_\_\_\_\_  
(Latitude) \_\_\_\_\_ (Longitude) \_\_\_\_\_
- Distance from shore (if applicable) \_\_\_\_\_ ft.
- Depth below surface (if applicable) \_\_\_\_\_ ft.
- Which of the following were monitored during the last year for this CSO?  
\_\_\_\_ Rainfall      \_\_\_\_ CSO pollutant concentrations      \_\_\_\_ CSO frequency  
\_\_\_\_ CSO flow volume      \_\_\_\_ Receiving water quality
- How many storm events were monitored during the last year? \_\_\_\_\_

**G.4. CSO Events.**

- Give the number of CSO events in the last year.  
\_\_\_\_\_ events (\_\_\_\_ actual or \_\_\_\_ approx.)
- Give the average duration per CSO event.  
\_\_\_\_\_ hours (\_\_\_\_ actual or \_\_\_\_ approx.)

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- c. Give the average volume per CSO event.  
\_\_\_\_\_ million gallons (\_\_\_\_\_ actual or \_\_\_\_\_ approx.)
- d. Give the minimum rainfall that caused a CSO event in the last year.  
\_\_\_\_\_ inches of rainfall

**G.5. Description of Receiving Waters.**

- a. Name of receiving water: \_\_\_\_\_
- b. Name of watershed/river/stream system: \_\_\_\_\_
- United States Soil Conservation Service 14-digit watershed code (if known): \_\_\_\_\_
- c. Name of State Management/River Basin: \_\_\_\_\_
- United States Geological Survey 8-digit hydrologic cataloging unit code (if known): \_\_\_\_\_

**G.6. CSO Operations.**

Describe any known water quality impacts on the receiving water caused by this CSO (e.g., permanent or intermittent beach closings, permanent or intermittent shell fish bed closings, fish kills, fish advisories, other recreational loss, or violation of any applicable State water quality standard).

\_\_\_\_\_  
\_\_\_\_\_

**END OF PART G.**

**REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE.**

Additional information, if provided, will appear on the following pages.

#### A.4. – COLLECTION SYSTEM INFORMATION

NAME	POPULATION SERVED	TYPE OF COLLECTION SYSTEM	OWNERSHIP
Dinwiddie County Water Authority	7,431	Sanitary	Wastewater Authority
Chesterfield County	10,000	Sanitary	Municipal
City of Petersburg	32,420	Sanitary	Municipal
City of Colonial Heights	17,411	Sanitary	Municipal
Prince George County	4,050	Sanitary	Municipal

Total Population Served – approximately 71,312

Footnotes – Part D

Note	Scan #1 QL	Scan #2 QL	Scan #3 QL
(1)	60 ug/l	100 ug/l	100 ug/l
(2)	2 ng/l	3 ng/l	3 ng/l
(3)	0.1 mg/l	0.2 mg/l	0.2 mg/l
(4)	10 ug/l	20 ug/l	50 ug/l
(5)	20 ug/l	10 ug/l	10 ug/l
(6)	20 ug/l	10 ug/l	10 ug/l

**ATTACHMENT A  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
WATER QUALITY CRITERIA MONITORING**

CASRN#	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL <sup>(1)</sup>	REPORTING RESULTS	SAMPLE TYPE <sup>(2)</sup>	SAMPLE FREQUENCY
<b>METALS</b>						
7440-36-0	Antimony, dissolved	200.7	4300	<QL	C	1/5 YR
7440-38-2	Arsenic, dissolved	200.7	230	<QL	C	1/5 YR
7440-43-9	Cadmium, dissolved	200.7	1	<QL	C	1/5 YR
16065-83-1	Chromium III, dissolved <sup>(8)</sup>	200.7	64	<QL	C	1/5 YR
18540-29-9	Chromium VI, dissolved <sup>(8)</sup>	200.7	12	<QL	C	1/5 YR
7440-50-8	Copper, dissolved	200.7	5.9	6	C	1/5 YR
7439-92-1	Lead, dissolved	200.8	8.4	<QL	C	1/5 YR
7439-97-6	Mercury, dissolved	245.7	1.0	<QL	C	1/5 YR
7440-02-0	Nickel, dissolved	200.7	17	<QL	C	1/5 YR
7782-49-2	Selenium, dissolved	200.8	7.8	<QL	C	1/5 YR
7440-22-4	Silver, dissolved	200.8	0.96	<QL	C	1/5 YR
7440-28-0	Thallium, dissolved	200.7	40	<QL	C	1/5 YR
7440-66-6	Zinc, dissolved	200.7	54	38	C	1/5 YR
<b>PESTICIDES/PCB'S</b>						
309-00-2	Aldrin	608	0.05	<0.05	G	1/5 YR
57-74-9	Chlordane	608	0.2	ND	G	1/5 YR
2921-88-2	Chlorpyrifos (synonym = Dursban)	622	0.1	<0.1	G	1/5 YR
72-54-8	DDD (9-10-2009)	608	0.1	<QL	G	1/5 YR
72-55-9	DDE	608	0.1	<QL	G	1/5 YR
50-29-3	DDT	608	0.1	<QL	G	1/5 YR
8065-48-3	Demeton	622	0.1	<0.1	G	1/5 YR
60-57-1	Diazinon	622	0.1	<0.1	G	1/5 YR
60-57-1	Dieldrin (9-10-2009)	608	0.1	<QL	G	1/5 YR
959-98-8	Alpha-Endosulfan	608	0.1	<QL	G	1/5 YR
33213-65-9	Beta-Endosulfan	608	0.1	<QL	G	1/5 YR

CASRN#	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL <sup>(1)</sup>	REPORTING RESULTS	SAMPLE TYPE <sup>(2)</sup>	SAMPLE FREQUENCY
1031-07-8	Endosulfan Sulfate	608	0.1	<QL	G	1/5 YR
72-20-8	Endrin	608	0.1	<QL	G	1/5 YR
7421-93-4	Endrin Aldehyde	608	0.05	<0.05	G	1/5 YR
86-50-0	Guthion	622	0.1	<0.1	G	1/5 YR
76-44-8	Heptachlor	608	0.05	<0.05	G	1/5 YR
1024-57-3	Heptachlor Epoxide	608	0.05	<0.05	G	1/5 YR
319-84-6	Hexachlorocyclohexane Alpha-BHC	608	0.05	<0.05	G	1/5 YR
319-85-7	Hexachlorocyclohexane Beta-BHC	608	0.05	<0.05	G	1/5 YR
58-89-9	Hexachlorocyclohexane Gamma-BHC or Lindane	608	0.05	<0.05	G	1/5 YR
143-50-0	Kepone	608	0.80	<0.08	G	1/5 YR
121-75-5	Malathion	622	0.10	<0.10	G	1/5 YR
72-43-5	Methoxychlor	608	0.05	<0.05	G	1/5 YR
2385-85-5	Mirex	608	0.05	<0.05	G	1/5 YR
56-38-2	Parathion	622	0.10	<0.10	G	1/5 YR
1336-36-3	PCB Total	608	7.0	ND	G	1/5 YR
8001-35-2	Toxaphene	608	5.0	ND	G	1/5 YR
<b>BASE NEUTRAL EXTRACTABLES</b>						
83-32-9	Acenaphthene	625	10.0	<10.0	G	1/5 YR
120-12-7	Anthracene	625	10.0	<10.0	G	1/5 YR
92-87-5	Benzidine	625	10.0	<10.0	G	1/5 YR
56-55-3	Benzo (a) anthracene	625	10.0	<10.0	G	1/5 YR
205-99-2	Benzo (b) fluoranthene	625	10.0	<10.0	G	1/5 YR
207-08-9	Benzo (k) fluoranthene	625	10.0	<10.0	G	1/5 YR
50-32-8	Benzo (a) pyrene	625	10.0	<10.0	G	1/5 YR
111-44-4	Bis 2-Chloroethyl Ether	625	10.0	<10.0	G	1/5 YR
39638-32-9	Bis 2-Chloroisopropyl Ether	625	10.0	<10.0	G	1/5 YR
85-68-7	Butyl benzyl phthalate	625	10.0	<10.0	G	1/5 YR
91-58-7	2-Chloronaphthalene	625	10.0	<10.0	G	1/5 YR
218-01-9	Chrysene	625	10.0	<10.0	G	1/5 YR



CASRN#	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL <sup>(1)</sup>	REPORTING RESULTS	SAMPLE TYPE <sup>(2)</sup>	SAMPLE FREQUENCY
53-70-3	Dibenz(a,h)anthracene	625	20.0	<QL	G	1/5 YR
84-74-2	Dibutyl phthalate (synonym = Di-n-Butyl Phthalate)	625	10.0	<10.0	G	1/5 YR
95-50-1	1,2-Dichlorobenzene	624	10.0	<10.0	G	1/5 YR
541-73-1	1,3-Dichlorobenzene	624	10.0	<10.0	G	1/5 YR
106-46-7	1,4-Dichlorobenzene	624	10.0	<10.0	G	1/5 YR
91-94-1	3,3-Dichlorobenzidine	625	10.0	<10.0	G	1/5 YR
84-66-2	Diethyl phthalate	625	10.0	<10.0	G	1/5 YR
117-81-7	Di-2-Ethylhexyl Phthalate	625	10.0	<10.0	G	1/5 YR
131-11-3	Dimethyl phthalate	625	10.0	<10.0	G	1/5 YR
121-14-2	2,4-Dinitrotoluene	625	10.0	<10.0	G	1/5 YR
122-66-7	1,2-Diphenylhydrazine	625	10.0	<10.0	G	1/5 YR
206-44-0	Fluoranthene	625	10.0	<10.0	G	1/5 YR
86-73-7	Fluorene	625	10.0	<10.0	G	1/5 YR
118-74-1	Hexachlorobenzene	625	10.0	<10.0	G	1/5 YR
87-68-3	Hexachlorobutadiene	625	10.0	<10.0	G	1/5 YR
77-47-4	Hexachlorocyclopentadiene	625	10.0	<10.0	G	1/5 YR
67-72-1	Hexachloroethane	625	10.0	<10.0	G	1/5 YR
193-39-5	Indeno(1,2,3-cd)pyrene	625	20.0	<QL	G	1/5 YR
78-59-1	Isophorone	625	10.0	<10.0	G	1/5 YR
98-95-3	Nitrobenzene	625	10.0	<10.0	G	1/5 YR
62-75-9	N-Nitrosodimethylamine	625	10.0	<10.0	G	1/5 YR
621-64-7	N-Nitrosodi-n-propylamine	625	10.0	<10.0	G	1/5 YR
86-30-6	N-Nitrosodiphenylamine	625	10.0	<10.0	G	1/5 YR
129-00-0	Pyrene	625	10.0	<10.0	G	1/5 YR
120-82-1	1,2,4-Trichlorobenzene	625	10.0	<10.0	G	1/5 YR
<b>VOLATILES</b>						
107-02-8	Acrolein	624	10.0	<10.0	G	1/5 YR
107-13-1	Acrylonitrile	624	10.0	<10.0	G	1/5 YR
71-43-2	Benzene	624	10.0	<10.0	G	1/5 YR

CASRN#	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL <sup>(1)</sup>	REPORTING RESULTS	SAMPLE TYPE <sup>(2)</sup>	SAMPLE FREQUENCY
75-25-2	Bromoform	624	10.0	<10.0	G	1/5 YR
56-23-5	Carbon Tetrachloride	624	10.0	<10.0	G	1/5 YR
108-90-7	Chlorobenzene (synonym = monochlorobenzene)	624	50.0	<QL	G	1/5 YR
124-48-1	Chlorodibromomethane	624	10.0	<10.0	G	1/5 YR
67-66-3	Chloroform	624	10.0	16.8	G	1/5 YR
75-09-2	Dichloromethane (synonym = methylene chloride)	624	20.0	<QL	G	1/5 YR
75-27-4	Dichlorobromomethane	624	10.0	<10.0	G	1/5 YR
107-06-2	1,2-Dichloroethane	624	10.0	<10.0	G	1/5 YR
75-35-4	1,1-Dichloroethylene	624	10.0	<10.0	G	1/5 YR
156-60-5	1,2-trans-dichloroethylene	624	10.0	<10.0	G	1/5 YR
78-87-5	1,2-Dichloropropane	624	10.0	<10.0	G	1/5 YR
542-75-6	1,3-Dichloropropene	624	20.0	<20.0	G	1/5 YR
100-41-4	Ethylbenzene	624	10.0	<10.0	G	1/5 YR
74-83-9	Methyl Bromide	624	10.0	<10.0	G	1/5 YR
79-34-5	1,1,2,2-Tetrachloroethane	624	10.0	<10.0	G	1/5 YR
127-18-4	Tetrachloroethylene	624	10.0	<10.0	G	1/5 YR
10-88-3	Toluene	624	10.0	<10.0	G	1/5 YR
79-00-5	1,1,2-Trichloroethane	624	10.0	<10.0	G	1/5 YR
79-01-6	Trichloroethylene	624	10.0	<10.0	G	1/5 YR
75-01-4	Vinyl Chloride	624	10.0	<10.0	G	1/5 YR
<b>RADIONUCLIDES</b>						
	Strontium 90 (pCi/L)	905.0	(5)	ND	C	1/5 YR
	Tritium (pCi/L)	906.0	(5)	ND	C	1/5 YR
	Beta Particle & Photon Activity (mrem/yr)	900.0 & 901.1	(5)	9.44 pCi/L	C	1/5 YR
	Gross Alpha Particle Activity (pCi/L)	900.0	(5)	ND	C	1/5 YR
<b>ACID EXTRACTABLES<sup>(6)</sup></b>						
95-57-8	2-Chlorophenol	625	10.0	<10.0	G	1/5 YR
120-83-2	2,4 Dichlorophenol	625	10.0	<10.0	G	1/5 YR
105-67-9	2,4 Dimethylphenol	625	10.0	<10.0	G	1/5 YR

CASRN#	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL <sup>(1)</sup>	REPORTING RESULTS	SAMPLE TYPE <sup>(2)</sup>	SAMPLE FREQUENCY
51-28-5	2,4-Dinitrophenol	625	20.0	<20.0	G	1/5 YR
534-52-1	2-Methyl-4,6-Dinitrophenol	625	20.0	<20.0	G	1/5 YR
25154-52-3	Nonylphenol (9-10-2009)	625	10.0	<10.0	G	1/5 YR
87-86-5	Pentachlorophenol	625	50.0	<QL	G	1/5 YR
108-95-2	Phenol	625	10.0	<10.0	G	1/5 YR
88-06-2	2,4,6-Trichlorophenol	625	10.0	<10.0	G	1/5 YR
<b>MISCELLANEOUS</b>						
776-41-7	Ammonia as NH3-N	350.1	200	<200	C	1/5 YR
16887-00-6	Chlorides	SM 4500 Cl <sup>-</sup> B	1.0	60	C	1/5 YR
7782-50-5	Chlorine, Total Residual (3/19/2008)	HACH 8167	100	<100	G	1/5 YR
57-12-5	Cyanide, Free	335.4	10.0	<10.0	G	1/5 YR
N/A	<i>E. coli</i> / <i>Enterococcus</i> (#/100 mL) (3/16/2011)	Colilert-18	1	1	G	1/5 YR
7783-06-4	Hydrogen Sulfide	ASTM 4658-03	0.3 mg/l	<0.3 mg/l	C	1/5 YR
60-10-5	Tributyltin <sup>(7)</sup>	NBSR 85-3295	30 ng/l	ND		1/5 YR
471-34-1	Hardness(mg/l as CaCO <sub>3</sub> )	SM 2340 B	0.1	56.9	C	1/5 YR

L. Alan Harrison, P.E., Assistant Executive Director  
Name of Principal Exec. Officer or Authorized Agent/Title

[Signature]  
Signature of Principal Officer or Authorized Agent/Date

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations. See 18 U.S.C. Sec. 1001 and 33 U.S.C. Sec. 1319. (Penalties under these statutes may include fines up to \$10,000 and or maximum imprisonment of between 6 months and 5 years.)

**FOOTNOTES:**

- (1) Quantification level (QL) is defined as the lowest concentration used for the calibration of a measurement system when the calibration is in accordance with the procedures published for the required method.

The quantification levels indicated for the metals are actually Specific Target Values developed for this permit. The Specific Target Value is the approximate value that may initiate a wasteload allocation analysis. Target values are not wasteload allocations or effluent limitations. The Specific Target Values are subject to change based on additional information such as hardness data, receiving stream flow, and design flows.

Units for the quantification level are micrograms/liter unless otherwise specified.

Quality control and quality assurance information shall be submitted to document that the required quantification level has been attained.

(2) Sample Type

G = Grab = An individual sample collected in less than 15 minutes. Substances specified with "grab" sample type shall only be collected as grabs. The permittee may analyze multiple grabs and report the average results provided that the individual grab results are also reported. For grab metals samples, the individual samples shall be filtered and preserved immediately upon collection.

C = Composite = A 24-hour (**PW - Revise as required to require same composite duration as BOD<sub>5</sub>**) composite unless otherwise specified. The composite shall be a combination of individual samples, taken proportional to flow, obtained at hourly or smaller time intervals. The individual samples may be of equal volume for flows that do not vary by +/- 10 percent over a 24-hour period.

SC = Special Composite = samples for base/neutral/acid compounds, PCBs, and pesticides must be collected as 4 individual grab samples taken proportional to flow at 6-hour intervals over the course of one day. The individual samples may be of equal volume for flows that do not vary by +/- 10 percent over a 24-hour period. Grab samples must be analyzed separately and the concentrations averaged. Alternately, grab samples may be collected in the field and composited in the laboratory if the compositing procedure produces results equivalent to results produced by arithmetic averaging of the results of analysis of individual grab samples.

- (3) A specific analytical method is not specified; however a target value for each metal has been established. An appropriate method to meet the target value shall be selected from the following list of EPA methods (or any approved method presented in 40 CFR Part 136). If the test result is less than the method QL, a "<[QL]" shall be reported where the actual analytical test QL is substituted for [QL].

<u>Metal</u>	<u>Analytical Method</u>
Antimony	1638; 1639
Arsenic	206.5; 1632
Chromium <sup>(9)</sup>	1639
Cadmium	1637; 1638; 1639; 1640
Chromium VI	218.6; 1639
Copper	1638; 1640
Lead	1637; 1638; 1640
Mercury	245.7; 1631
Nickel	1638; 1639; 1640
Selenium	1638; 1639
Silver	1638
Zinc	1638; 1639

- (4) Any approved method presented in 40 CFR Part 136.
- (5) The QL is at the discretion of the permittee. For any substances addressed in 40 CFR Part 136, the permittee shall use one of the approved methods in 40 CFR Part 136.
- (6) Testing for phenol requires continuous extraction.
- (7) Analytical Methods: NBSR 85-3295 or DEQ's approved analysis for Tributyltin may also be used [See A Manual for the Analysis of Butyltins in Environmental Systems by the Virginia Institute of Marine Science, dated November 1996].
- (8) Both Chromium III and Chromium VI may be measured by the total chromium analysis. If the result of the total chromium analysis is less than or equal to the lesser of the Chromium III or Chromium VI method QL, the results for both Chromium III and Chromium VI can be reported as "<[QL]", where the actual analytical test QL is substituted for [QL].
- (9) The lab may use SW846 Method 8270D provided the lab has an Initial Demonstration of Capability, has passed a PT for Kepone, and meets the acceptance criteria for Kepone as given in Method 8270D

**SIGNIFICANT INDUSTRIAL USER INFORMATION** (EPA Form 3510-2A p. 18-19)

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Supply the following information for each SIU. If more than one SIU discharges to the treatment works, copy questions F.3 through F.8 and provide the information requested for each SIU.

**F.3. Significant Industrial User Information.** Provide the name and address of each SIU discharging to the treatment works. Submit additional pages as necessary.

Name: **Boehringer Ingelheim Chemicals, SCP-004**

Mailing Address: **P.O. Box 1658, Petersburg, VA 23805-9372**

**F.4. Industrial Processes.** Describe all of the industrial processes that affect or contribute to the SIU's discharge.

**The facility manufacturers bulk pharmaceuticals by batch chemical synthesis. Raw products are reacted in vessels according to prescribed methods. Products are then dried, milled, and packaged for shipment.**

**F.5. Principal Product(s) and Raw Material(s).** Describe all of the principal processes and raw materials that affect or contribute to the SIU's discharge.

Principal product(s): **Pharmaceuticals synthesis products**

Raw material(s): **Sodium hypochlorite, Ethylene Glycol, Citric acid, Phosphoric acid, Ammonium hydroxide, Toluene Sodium hydroxide, Guaiacol, SDA2B, Methanol, Tetrahydrofuran, Hydrogen Peroxide, Defoamer, HCl**

**F.6. Flow Rate.**

a. Process wastewater flow rate. Indicate the average daily volume of process wastewater discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

**0.122 MGD (Continuous)**

b. Non-process wastewater flow rate. Indicate the average daily volume of non-process wastewater flow discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

**0.00924 MGD (Continuous) Sanitary Flow based on Employee Count**

**F.7. Pretreatment Standards.** Indicate whether the SIU is subject to the following:

a. Local Limits? **Yes**

b. Categorical pretreatment standards? **Yes**

If subject to categorical pretreatment standards, which category and subcategory? **40 CFR Part 439.36**

**F.8. Problems at the Treatment Works Attributed to Waste Discharged by the SIU.**

Has the SIU caused or contributed to any problems (e.g. upsets, interference) at the treatment works in the past three years? **No**

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**SIGNIFICANT INDUSTRIAL USER INFORMATION** (EPA Form 3510-2A p. 18-19)

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Supply the following information for each SIU. If more than one SIU discharges to the treatment works, copy questions F.3 through F.8 and provide the information requested for each SIU.

**F.3. Significant Industrial User Information.** Provide the name and address of each SIU discharging to the treatment works. Submit additional pages as necessary.

Name: **Virginia Linen Services, SCP-005**

Mailing Address: **P.O Box 869, Petersburg, VA 23804**

**F.4. Industrial Processes.** Describe all of the industrial processes that affect or contribute to the SIU's discharge.

**Soiled linens are received from customers then sorted and placed in washers where automatic feed systems apply detergent and various cleaning chemicals automatically.**

**F.5. Principal Product(s) and Raw Material(s).** Describe all of the principal processes and raw materials that affect or contribute to the SIU's discharge.

Principal product(s): **Laundered textiles**

Raw material(s): **Bleach 15%, #6 Fuel Oil, Caustic, Silicate**

**F.6. Flow Rate.**

a. Process wastewater flow rate. Indicate the average daily volume of process wastewater discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

**0.090 MGD (Continuous)**

b. Non-process wastewater flow rate. Indicate the average daily volume of non-process wastewater flow discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

**0.00188 MGD (Continuous) Sanitary Flow based on Employee Count**

**F.7. Pretreatment Standards.** Indicate whether the SIU is subject to the following:

a. Local Limits? **Yes**

b. Categorical pretreatment standards? **No**

If subject to categorical pretreatment standards, which category and subcategory?

**F.8. Problems at the Treatment Works Attributed to Waste Discharged by the SIU.**

Has the SIU caused or contributed to any problems (e.g. upsets, interference) at the treatment works in the past three years? **No**

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**SIGNIFICANT INDUSTRIAL USER INFORMATION** (EPA Form 3510-2A p. 18-19)

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Supply the following information for each SIU. If more than one SIU discharges to the treatment works, copy questions F.3 through F.8 and provide the information requested for each SIU.

**F.3. Significant Industrial User Information.** Provide the name and address of each SIU discharging to the treatment works. Submit additional pages as necessary.

Name: **AmstedRail (formally Brenco, Inc.), SCP-007**

Mailing Address: **2580 Frontage Road, Petersburg, VA 23804-9309**

**F.4. Industrial Processes.** Describe all of the industrial processes that affect or contribute to the SIU's discharge.

Facility is a manufacturer of tapered roller bearings for railroad applications. Processes include forging, grinding, cutting, and shaping of raw straight and coiled steel rod. Manufacturing processes which produce a wastestream include the phosphate dipping lines in Plants 1 and 3, and quenching in Plant 4.

**F.5. Principal Product(s) and Raw Material(s).** Describe all of the principal processes and raw materials that affect or contribute to the SIU's discharge.

Principal product(s): **Railroad bearings**

Raw material(s): **Neutral Polyaluminum Coagulant (Treatment), Sulfuric Acid (50%) (treatment), Amlube 120, Chemsolv 142, Diesel Fuel, Double A Quench, Ecocool 506, Ecocool s761 GR, Ecocool SYN, 7045-Bin, Gasoline, Grease, Kerosene, Mobil Hydraulic Oil AW32, Mobil Hydraulic Oil, AW68, Mobil Vactra No. 2, Mobilgear 632, Phos Dip p-15, Power Wash Cleaner, Quakercool 7102, Renoform OL 7315 LV, Robond™ Tr-7012D, Velocite 10, Amlube**

**F.6. Flow Rate.**

a. Process wastewater flow rate. Indicate the average daily volume of process wastewater discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

**0.128 MGD (Continuous)**

b. Non-process wastewater flow rate. Indicate the average daily volume of non-process wastewater flow discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

**0.00650 MGD (Continuous) Sanitary Flow based on Employee Count**

**F.7. Pretreatment Standards.** Indicate whether the SIU is subject to the following:

a. Local Limits? **Yes**

b. Categorical pretreatment standards? **Yes**

If subject to categorical pretreatment standards, which category and subcategory? **40 CFR Part 433.15**

**F.8. Problems at the Treatment Works Attributed to Waste Discharged by the SIU.**

Has the SIU caused or contributed to any problems (e.g. upsets, interference) at the treatment works in the past three years? **No**

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**SIGNIFICANT INDUSTRIAL USER INFORMATION** (EPA Form 3510-2A p. 18-19)

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Supply the following information for each SIU. If more than one SIU discharges to the treatment works, copy questions F.3 through F.8 and provide the information requested for each SIU.

**F.3. Significant Industrial User Information.** Provide the name and address of each SIU discharging to the treatment works. Submit additional pages as necessary.

Name: **Coyne Textile Services, SCP-009**

Mailing Address: **140 Cortland Avenue, Syracuse, NY 13221**

**F.4. Industrial Processes.** Describe all of the industrial processes that affect or contribute to the SIU's discharge.

**Coyne Textile Services is an industrial laundry which collects, processes, and returns garments, shop towels, and other items. These items are supplied to users on a rental basis.**

**F.5. Principal Product(s) and Raw Material(s).** Describe all of the principal processes and raw materials that affect or contribute to the SIU's discharge.

Principal product(s): **Laundered textiles**

Raw material(s): **Petroleum Hydrocarbons – sludge removed from DAF unit, Sours, Waste oil, Waste antifreeze, Softeners, Antichlors, Bleaches, Potassium hydroxide, Sulfuric acid, Aqua Mop, Bannish, Dober base oil, Dober brite, Hy-Sil II, Navy Dye, Orange Dye, Pryoshield, Red Dye, Super Reduce, Vis-Det, DWT5258, Dwt160-E**

**F.6. Flow Rate.**

a. Process wastewater flow rate. Indicate the average daily volume of process wastewater discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

**0.080 MGD (Continuous)**

b. Non-process wastewater flow rate. Indicate the average daily volume of non-process wastewater flow discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

**0.00050 MGD (Continuous) Sanitary Flow based on Employee Count**

**F.7. Pretreatment Standards.** Indicate whether the SIU is subject to the following:

a. Local Limits? **Yes**

b. Categorical pretreatment standards? **No**

If subject to categorical pretreatment standards, which category and subcategory?

**F.8. Problems at the Treatment Works Attributed to Waste Discharged by the SIU.**

Has the SIU caused or contributed to any problems (e.g. upsets, interference) at the treatment works in the past three years? **No**

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**SIGNIFICANT INDUSTRIAL USER INFORMATION** (EPA Form 3510-2A p. 18-19)

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Supply the following information for each SIU. If more than one SIU discharges to the treatment works, copy questions F.3 through F.8 and provide the information requested for each SIU.

**F.3. Significant Industrial User Information.** Provide the name and address of each SIU discharging to the treatment works. Submit additional pages as necessary.

Name: **Virginia Textile Services, SCP-010**

Mailing Address: **P.O Box 869, Petersburg, VA 23804**

**F.4. Industrial Processes.** Describe all of the industrial processes that affect or contribute to the SIU's discharge.

**Commercial Laundry**

**F.5. Principal Product(s) and Raw Material(s).** Describe all of the principal processes and raw materials that affect or contribute to the SIU's discharge.

Principal product(s): **Laundered textiles**

Raw material(s): **Bleach 15%, Linen Starch, Sour, Diesel Fuel, #6 Fuel Oil**

**F.6. Flow Rate.**

a. Process wastewater flow rate. Indicate the average daily volume of process wastewater discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

**0.020 MGD (Continuous)**

b. Non-process wastewater flow rate. Indicate the average daily volume of non-process wastewater flow discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

**0.00108 MGD (Continuous) Sanitary Flow based on Employee Count**

**F.7. Pretreatment Standards.** Indicate whether the SIU is subject to the following:

a. Local Limits? **Yes**

b. Categorical pretreatment standards? **No**

If subject to categorical pretreatment standards, which category and subcategory?

**F.8. Problems at the Treatment Works Attributed to Waste Discharged by the SIU.**

Has the SIU caused or contributed to any problems (e.g. upsets, interference) at the treatment works in the past three years? **No**

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**SIGNIFICANT INDUSTRIAL USER INFORMATION** (EPA Form 3510-2A p. 18-19)

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Supply the following information for each SIU. If more than one SIU discharges to the treatment works, copy questions F.3 through F.8 and provide the information requested for each SIU.

**F.3. Significant Industrial User Information.** Provide the name and address of each SIU discharging to the treatment works. Submit additional pages as necessary.

Name: **Temple-Inland, Inc. , Plant 36, SCP-012**

Mailing Address: **2333 Wells Road, Petersburg, VA 23805**

**F.4. Industrial Processes.** Describe all of the industrial processes that affect or contribute to the SIU's discharge.

**This facility purchases rolled paperboard for liner and medium. The paperboard is corrugated and glued on site according to customers' specifications. Finished corrugated boxes are then shipped flat to customer for their use.**

**F.5. Principal Product(s) and Raw Material(s).** Describe all of the principal processes and raw materials that affect or contribute to the SIU's discharge.

Principal product(s): **Corrugated Boxes**

Raw material(s): **Corn Starch (dry powder), Salt (NaCl), Caustic Soda (50%), Ink (non-copper based), Nat. 33-9201 (prepared Glue), Resin (waterprooferTurbomax66 ), Motor Oil (10W40), Used Motor Oil, Machine Oil (220), Parts Washer, Hydraulic Oil (30, FM32, FM68, HY46)**

**F.6. Flow Rate.**

a. Process wastewater flow rate. Indicate the average daily volume of process wastewater discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

**0.020 MGD (Continuous)**

b. Non-process wastewater flow rate. Indicate the average daily volume of non-process wastewater flow discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

**0.00174 MGD (Continuous) Sanitary Flow based on Employee Count**

**F.7. Pretreatment Standards.** Indicate whether the SIU is subject to the following:

a. Local Limits? **Yes**

b. Categorical pretreatment standards? **No**

If subject to categorical pretreatment standards, which category and subcategory?

**F.8. Problems at the Treatment Works Attributed to Waste Discharged by the SIU.**

Has the SIU caused or contributed to any problems (e.g. upsets, interference) at the treatment works in the past three years? **No**

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**SIGNIFICANT INDUSTRIAL USER INFORMATION** (EPA Form 3510-2A p. 18-19)

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Supply the following information for each SIU. If more than one SIU discharges to the treatment works, copy questions F.3 through F.8 and provide the information requested for each SIU.

**F.3. Significant Industrial User Information.** Provide the name and address of each SIU discharging to the treatment works. Submit additional pages as necessary.

Name: **Container First Services, LLC, SCP-014**

Mailing Address: **333 Industrial Drive, Petersburg, VA 23803-3613**

**F.4. Industrial Processes.** Describe all of the industrial processes that affect or contribute to the SIU's discharge.

**Facility is a municipal solid waste landfill. The waste is primarily residential with some commercial. Landfill leachate (wastestream) is generated by moisture percolating through the solid waste. Two float controlled pumping stations are located on-site to transfer leachate to the City of Petersburg sewer system on East Washington Street.**

**F.5. Principal Product(s) and Raw Material(s).** Describe all of the principal processes and raw materials that affect or contribute to the SIU's discharge.

Principal product(s): **Leachate**

Raw material(s): **na**

**F.6. Flow Rate.**

a. Process wastewater flow rate. Indicate the average daily volume of process wastewater discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

**0.018 MGD (Continuous)**

b. Non-process wastewater flow rate. Indicate the average daily volume of non-process wastewater flow discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

**to be determined MGD (Continuous) Sanitary Flow based on Employee Count**

**F.7. Pretreatment Standards.** Indicate whether the SIU is subject to the following:

a. Local Limits? **Yes**

b. Categorical pretreatment standards? **No**

If subject to categorical pretreatment standards, which category and subcategory?

**F.8. Problems at the Treatment Works Attributed to Waste Discharged by the SIU.**

Has the SIU caused or contributed to any problems (e.g. upsets, interference) at the treatment works in the past three years? **No**

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**SIGNIFICANT INDUSTRIAL USER INFORMATION** (EPA Form 3510-2A p. 18-19)

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Supply the following information for each SIU. If more than one SIU discharges to the treatment works, copy questions F.3 through F.8 and provide the information requested for each SIU.

**F.3. Significant Industrial User Information.** Provide the name and address of each SIU discharging to the treatment works. Submit additional pages as necessary.

Name: **Oakley Tank Lines, SCP-020**

Mailing Address: **5115 Prince George Drive, Prince George, VA 23875**

**F.4. Industrial Processes.** Describe all of the industrial processes that affect or contribute to the SIU's discharge.

**Facility hauls bulk chemical quantities and cleans the interior of these RCRA empty Tanker trucks (<0.3% residue) onsite. The washings from these cleaning activities are collected into a modified tanker truck used as a pretreatment holding tank. Compartments of the tank are able to sequentially treat truck washings by means of settling and/or floatation and pH adjustment.**

**F.5. Principal Product(s) and Raw Material(s).** Describe all of the principal processes and raw materials that affect or contribute to the SIU's discharge.

Principal product(s): **Tank Rinsate**

Raw material(s): **Cyclohexanone, Polymer, Detergents, Caprolactane, Water Soluble Resins**

**F.6. Flow Rate.**

a. Process wastewater flow rate. Indicate the average daily volume of process wastewater discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

**0.008 MGD (Batch)**

b. Non-process wastewater flow rate. Indicate the average daily volume of non-process wastewater flow discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

**0.00030 MGD (Continuous) Sanitary Flow based on Employee Count**

**F.7. Pretreatment Standards.** Indicate whether the SIU is subject to the following:

a. Local Limits? **Yes**

b. Categorical pretreatment standards? **No**

If subject to categorical pretreatment standards, which category and subcategory?

**F.8. Problems at the Treatment Works Attributed to Waste Discharged by the SIU.**

Has the SIU caused or contributed to any problems (e.g. upsets, interference) at the treatment works in the past three years? **No**

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**SIGNIFICANT INDUSTRIAL USER INFORMATION** (EPA Form 3510-2A p. 18-19)

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Supply the following information for each SIU. If more than one SIU discharges to the treatment works, copy questions F.3 through F.8 and provide the information requested for each SIU.

**F.3. Significant Industrial User Information.** Provide the name and address of each SIU discharging to the treatment works. Submit additional pages as necessary.

Name: **Boar's Head Provisions Co., Inc., SCP-022**

Mailing Address: **2230 Wyatts Mill Road, Jarrett, VA 23867**

**F.4. Industrial Processes.** Describe all of the industrial processes that affect or contribute to the SIU's discharge.

**This facility manufactures deli ham products from receipt of pre-slaughtered carcasses. Additional functions performed at the facility include boxing of deli products, finished storage, and distribution to retail stores.**

**F.5. Principal Product(s) and Raw Material(s).** Describe all of the principal processes and raw materials that affect or contribute to the SIU's discharge.

Principal product(s): **Cooked Meats**

Raw material(s): **Anhydrous Ammonia, Cryovac rotary valve oil, Duoquat, Dynachor, Hydraulic Fluid 68, Instant Hand Sanitizer, Mobil Synthetic gear Lubricant, Non-Detergent Motor Oil, Oxy Plus Oxy Power, propylene Glycol, Quintagen R 717 refrigerant oil, Bright Eze NF, Tower 1, Biocide, BLR 10 Feedwater 3, Brawny, ZEE 125, Hand-I Sa, Microfoam, Typhoon, San-I-Ox, Solv All, Q Gaurds, 2 PDLI-Zee, Smart Step, Astound, MEK**

**F.6. Flow Rate.**

a. Process wastewater flow rate. Indicate the average daily volume of process wastewater discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

**0.064 MGD (Continuous)**

b. Non-process wastewater flow rate. Indicate the average daily volume of non-process wastewater flow discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

**0.00712 MGD (Continuous) Sanitary Flow based on Employee Count**

**F.7. Pretreatment Standards.** Indicate whether the SIU is subject to the following:

a. Local Limits? **Yes**

b. Categorical pretreatment standards? **No**

If subject to categorical pretreatment standards, which category and subcategory?

**F.8. Problems at the Treatment Works Attributed to Waste Discharged by the SIU.**

Has the SIU caused or contributed to any problems (e.g. upsets, interference) at the treatment works in the past three years? **No**

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**SIGNIFICANT INDUSTRIAL USER INFORMATION** (EPA Form 3510-2A p. 18-19)

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Supply the following information for each SIU. If more than one SIU discharges to the treatment works, copy questions F.3 through F.8 and provide the information requested for each SIU.

**F.3. Significant Industrial User Information.** Provide the name and address of each SIU discharging to the treatment works. Submit additional pages as necessary.

Name: **Southside Virginia Training Center, SCP-023**

Mailing Address: **P.O. Box 4030, Petersburg, VA 23803**

**F.4. Industrial Processes.** Describe all of the industrial processes that affect or contribute to the SIU's discharge.

**SVTC is a DMHMRSAS residential/treatment facility. The Environment of Care (EOC) division of the Southside Virginia Training Center (SVTC) maintains residential, training, hospital, administration, and service buildings on a 680 acre campus in Dinwiddie County just west of Petersburg, VA. SVTC Physical plant services provides facility support to Central State Hospital, Harim W. Davis Medical Center, Virginia Department of Corrections District #7 Probation & Parole, Northwest Human Services, and a division of the Virginia Department of Health.**

**F.5. Principal Product(s) and Raw Material(s).** Describe all of the principal processes and raw materials that affect or contribute to the SIU's discharge.

Principal product(s): **Domestic Wastewaters**

Raw material(s): **Phosphate Sulfite, Sodium Hydroxide, Cyclohexylamine, Bio-cide & Inhibitor, Alkaline Paralate Bleach, Sour Fabric Softener, Sodium Chloride, Wex-Cide, Detergent, Fuel Oil**

**F.6. Flow Rate.**

a. Process wastewater flow rate. Indicate the average daily volume of process wastewater discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

**0.150 MGD (Continuous)**

b. Non-process wastewater flow rate. Indicate the average daily volume of non-process wastewater flow discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

**0.15019 MGD (Continuous) Sanitary Flow based on Employee Count**

**F.7. Pretreatment Standards.** Indicate whether the SIU is subject to the following:

a. Local Limits? **Yes**

b. Categorical pretreatment standards? **No**

If subject to categorical pretreatment standards, which category and subcategory?

**F.8. Problems at the Treatment Works Attributed to Waste Discharged by the SIU.**

Has the SIU caused or contributed to any problems (e.g. upsets, interference) at the treatment works in the past three years? **No**

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**SIGNIFICANT INDUSTRIAL USER INFORMATION** (EPA Form 3510-2A p. 18-19)

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Supply the following information for each SIU. If more than one SIU discharges to the treatment works, copy questions F.3 through F.8 and provide the information requested for each SIU.

**F.3. Significant Industrial User Information.** Provide the name and address of each SIU discharging to the treatment works. Submit additional pages as necessary.

Name: **Virginia State University, SCP-024**

Mailing Address: **P.O. Box 9048, Petersburg, VA 23806**

**F.4. Industrial Processes.** Describe all of the industrial processes that affect or contribute to the SIU's discharge.

**Virginia State University is an accredited 4 year college offering undergraduate and graduate programs to approximately 5500 students. The University's on campus housing capacity is 2100 students in 17 residence halls.**

**F.5. Principal Product(s) and Raw Material(s).** Describe all of the principal processes and raw materials that affect or contribute to the SIU's discharge.

Principal product(s): **Domestic Wastewaters**

Raw material(s): **#2 Fuel Oil, #6 Fuel Oil**

**F.6. Flow Rate.**

a. Process wastewater flow rate. Indicate the average daily volume of process wastewater discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

**0.139 MGD (Continuous)**

b. Non-process wastewater flow rate. Indicate the average daily volume of non-process wastewater flow discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

**0.13854 MGD (Continuous) Sanitary Flow based on Employee Count**

**F.7. Pretreatment Standards.** Indicate whether the SIU is subject to the following:

a. Local Limits? **Yes**

b. Categorical pretreatment standards? **No**

If subject to categorical pretreatment standards, which category and subcategory?

**F.8. Problems at the Treatment Works Attributed to Waste Discharged by the SIU.**

Has the SIU caused or contributed to any problems (e.g. upsets, interference) at the treatment works in the past three years? **No**

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**SIGNIFICANT INDUSTRIAL USER INFORMATION** (EPA Form 3510-2A p. 18-19)

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Supply the following information for each SIU. If more than one SIU discharges to the treatment works, copy questions F.3 through F.8 and provide the information requested for each SIU.

**F.3. Significant Industrial User Information.** Provide the name and address of each SIU discharging to the treatment works. Submit additional pages as necessary.

Name: **Wal-Mart Distribution Center #6023, SCP-026**

Mailing Address: **21500 Cox Road, Sutherland, VA 23885**

**F.4. Industrial Processes.** Describe all of the industrial processes that affect or contribute to the SIU's discharge.

**Facility is operated as a distribution center for regional Wal-Mart stores. Products are not produced on-site, but are trucked in and loaded again onto outgoing trucks.**

**F.5. Principal Product(s) and Raw Material(s).** Describe all of the principal processes and raw materials that affect or contribute to the SIU's discharge.

Principal product(s): **Truck wash drainage and Warehouse wastewaters**

Raw material(s): **Battery Electrolyte 35% H2SO4, Blast off Cleaner/Degreaser, Motor Oil, Chain Oil, Used Motor Oil, Hydraulic Fluid, Waste Paint, Used Kitchen Grease, Diesel fuel, Truck Wash Solution, New Motor Oil, New Motor Oil, Used Motor Oil, Antifreeze**

**F.6. Flow Rate.**

a. Process wastewater flow rate. Indicate the average daily volume of process wastewater discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

**0.017 MGD (Continuous)**

b. Non-process wastewater flow rate. Indicate the average daily volume of non-process wastewater flow discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

**0.01630 MGD (Continuous) Sanitary Flow based on Employee Count**

**F.7. Pretreatment Standards.** Indicate whether the SIU is subject to the following:

a. Local Limits? **Yes**

b. Categorical pretreatment standards? **No**

If subject to categorical pretreatment standards, which category and subcategory?

**F.8. Problems at the Treatment Works Attributed to Waste Discharged by the SIU.**

Has the SIU caused or contributed to any problems (e.g. upsets, interference) at the treatment works in the past three years? **No**

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**SIGNIFICANT INDUSTRIAL USER INFORMATION** (EPA Form 3510-2A p. 18-19)

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Supply the following information for each SIU. If more than one SIU discharges to the treatment works, copy questions F.3 through F.8 and provide the information requested for each SIU.

**F.3. Significant Industrial User Information.** Provide the name and address of each SIU discharging to the treatment works. Submit additional pages as necessary.

Name: **BleachTech LLC, SCP-027**

Mailing Address: **8929 Ryan Road, Seville, OH 44273**

**F.4. Industrial Processes.** Describe all of the industrial processes that affect or contribute to the SIU's discharge.

**BleachTech LLC is a privately owned company based in Cleveland, Ohio with multiple chlor-alkali plants to produce sodium hypochlorite (bleach). Sodium hypochlorite (NaOCl), also called "hypo" or "bleach", is a large-volume commodity chemical product used by consumers (as laundry bleach, swimming pool chemical, disinfectant cleaner), potable (drinking) water treatment plants (to disinfect the water), waste water treatment plants, and industrial concerns. Customers for this product include municipalities, packagers of laundry bleach, chemical distributors, large industrial users and swimming pool distributors.**

**F.5. Principal Product(s) and Raw Material(s).** Describe all of the principal processes and raw materials that affect or contribute to the SIU's discharge.

Principal product(s): **Sodium hypochlorite, Sodium hydroxide, Hydrochloric acid**

Raw material(s): **Sodium Hypochlorite (12.5, 15.5, 16%), Salt (NaCl) (solid), Sodium Hydroxide (caustic 15%), Hydrochloric Acid (15%), Devlex HP 4216-0100L, NAPA Hydraulic Oil A32, NAPA Hydraulic oil A W-46 Reactamine, Xylene, Product # 384750, Glycerine, 50/50, Sodium Carbonate, Sodium Sulfite, Aquacide W-15, Aquacide SLT 900, Aquacide N-175, Aquacide BWT-924, Aquacide CLT- 15, Aquacide C-120, Purple Power Cleaner Degreaser, Solka Flocc 40, Solka Flocc 100, Diesel Fuel**

**F.6. Flow Rate.**

a. Process wastewater flow rate. Indicate the average daily volume of process wastewater discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

**0.014 MGD (Batch)**

b. Non-process wastewater flow rate. Indicate the average daily volume of non-process wastewater flow discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

**0.00040 MGD (Continuous) Sanitary Flow based on Employee Count**

**F.7. Pretreatment Standards.** Indicate whether the SIU is subject to the following:

a. Local Limits? **Yes**

b. Categorical pretreatment standards? **Yes**

If subject to categorical pretreatment standards, which category and subcategory? **40 CFR Part 415**

**F.8. Problems at the Treatment Works Attributed to Waste Discharged by the SIU.**

Has the SIU caused or contributed to any problems (e.g. upsets, interference) at the treatment works in the past three years? **No**

---

**SIGNIFICANT INDUSTRIAL USER INFORMATION** (EPA Form 3510-2A p. 18-19)

---

Supply the following information for each SIU. If more than one SIU discharges to the treatment works, copy questions F.3 through F.8 and provide the information requested for each SIU.

**F.3. Significant Industrial User Information.** Provide the name and address of each SIU discharging to the treatment works. Submit additional pages as necessary.

Name: **Southside Regional Medical Center, SCP-028**

Mailing Address: **200 Medical Park Blvd, Petersburg, VA 23805**

**F.4. Industrial Processes.** Describe all of the industrial processes that affect or contribute to the SIU's discharge.

**The new hospital facility opened to patients as of July 1, 2009. Support facilities are fully operational in new location and current discharge analysis represents normal operating conditions. The facility is an acute medical care institution. Wastewater generated is primarily domestic and non-contact cooling water. All laundry activities are sub-contracted for off-site processing. In place are oil-water separators, grease collection and recycling contract, and neutralization of laboratory wastes before entering the sanitary sewer.**

**F.5. Principal Product(s) and Raw Material(s).** Describe all of the principal processes and raw materials that affect or contribute to the SIU's discharge.

Principal product(s): **Domestic Wastewaters**

Raw material(s): **BL 1325, BL 540, 1605, SOBR2, Salt, Stride, BL 720, BL 630 (Sulfite), Sodium Hypochlorite 12.5%**

**F.6. Flow Rate.**

a. Process wastewater flow rate. Indicate the average daily volume of process wastewater discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

**0.053 MGD (Continuous)**

b. Non-process wastewater flow rate. Indicate the average daily volume of non-process wastewater flow discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

**0.05330 MGD (Continuous) Sanitary Flow based on Employee Count**

**F.7. Pretreatment Standards.** Indicate whether the SIU is subject to the following:

a. Local Limits? **Yes**

b. Categorical pretreatment standards? **No**

If subject to categorical pretreatment standards, which category and subcategory?

**F.8. Problems at the Treatment Works Attributed to Waste Discharged by the SIU.**

Has the SIU caused or contributed to any problems (e.g. upsets, interference) at the treatment works in the past three years? **No**

---

**SIGNIFICANT INDUSTRIAL USER INFORMATION** (EPA Form 3510-2A p. 18-19)

---

Supply the following information for each SIU. If more than one SIU discharges to the treatment works, copy questions F.3 through F.8 and provide the information requested for each SIU.

**F.3. Significant Industrial User Information.** Provide the name and address of each SIU discharging to the treatment works. Submit additional pages as necessary.

Name: **Rolls Royce North America - Crosspointe, SCP-029**

Mailing Address: **P.O. Box 1848, Petersburg, VA 23805-0848**

**F.4. Industrial Processes.** Describe all of the industrial processes that affect or contribute to the SIU's discharge.

**Facility manufactures aircraft engine parts and assemblies.**

**F.5. Principal Product(s) and Raw Material(s).** Describe all of the principal processes and raw materials that affect or contribute to the SIU's discharge.

Principal product(s): **Aircraft parts**

Raw material(s): **Waste Oil, Oil emulsion, 0.1% Polyelectrolyte, Lime (calcium hydroxide), Caustic 32% sodium hydroxide, Sulfuric Acid Tank - 50%, Sludge 2% metal hydroxide, Caustic Waste - 2-3% NaOH, Acid Waste - 2-3% Sulfuric, diesel Fuel, Sodium Hypochlorite solution, 32% Hydrochloric Acid, hydrated lime, Polyfloc, Hocut 808 Concentrate, Cutmax 5029, Cutmax 600, Nuto H46, Velocite 6, Nuto H32/Terestic 32, Vectra 2, Vectra 4, Orthosil solution - Sod. Hydroxide, Sod. Metasilicate; sod. Carbonate; dodecylbenzene sulfonate, Nitric / Hydrofluorisisilic acid, Ammonium Bifluoride solution, Sodium Carbonate solution, Albion R40 cleaning agent, Electrolytic Sulfuric Etch solution - sulfuric acid, Nitric/Hydrofluoric AMS1 solution - Nitric acid/ Hydrofluoric acid, m-Aero-NS (triethanolamine), 5% Brulin (sodium tripolyphosphonate), Cobalt sulfate solution, Nickel chloride, Nickel sulfamate solution, Boric acid, Sodium chloride, Sulfamic acid, Nitric acid - 70%, Ferrous sulfate, Hydrofluoric acid -45%, Alumina 180/220 (aquablast), Alumina 180/220, Granual carbon (filters), TP109, Chromium carbide powder, Ammonium bifluoride, Sodium carbonate**

**F.6. Flow Rate.**

a. Process wastewater flow rate. Indicate the average daily volume of process wastewater discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

**to be determined MGD (Continuous)**

b. Non-process wastewater flow rate. Indicate the average daily volume of non-process wastewater flow discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

**to be determined MGD (Continuous) Sanitary Flow based on Employee Count**

**F.7. Pretreatment Standards.** Indicate whether the SIU is subject to the following:

a. Local Limits? **Yes**

b. Categorical pretreatment standards? **Yes**

If subject to categorical pretreatment standards, which category and subcategory? **40 CFR Part 433.17**

**F.8. Problems at the Treatment Works Attributed to Waste Discharged by the SIU.**

Has the SIU caused or contributed to any problems (e.g. upsets, interference) at the treatment works in the past three years? **No**

---

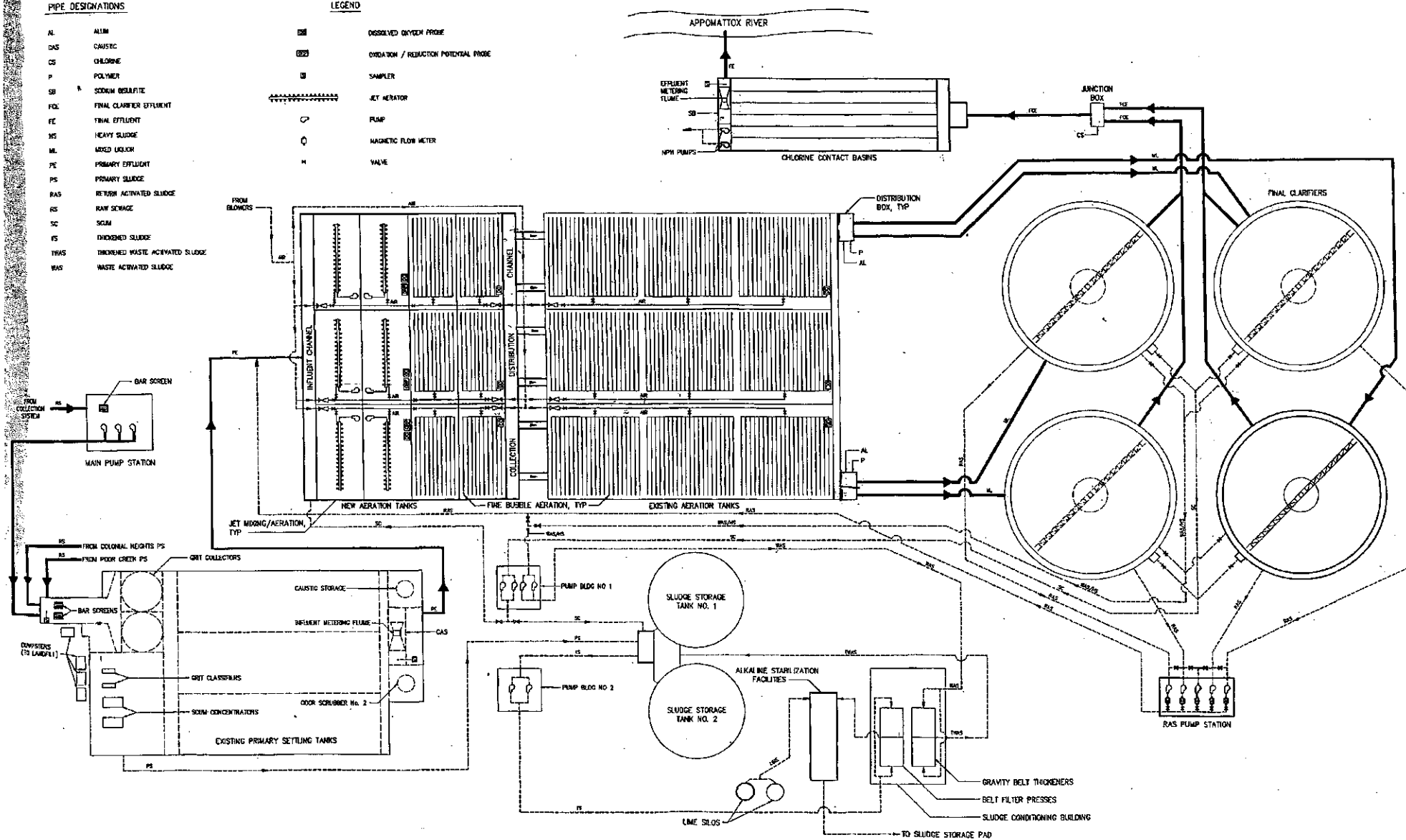


# PIPE DESIGNATIONS

AL	ALUM
CAS	CAUSTIC
CS	CHLORINE
P	POLYMER
SB	SODIUM BISULFITE
FCE	FINAL CLARIFIER EFFLUENT
FE	FINAL EFFLUENT
HS	HEAVY SLUDGE
ML	MIXED LIQUOR
PE	PRIMARY EFFLUENT
PS	PRIMARY SLUDGE
RAS	RETURN ACTIVATED SLUDGE
RS	RAW SEWAGE
SC	SCUM
SS	THICKENED SLUDGE
THWS	THICKENED WASTE ACTIVATED SLUDGE
WAS	WASTE ACTIVATED SLUDGE

# LEGEND

DS	DESIGNED DRYER PROBE
OPD	OXIDATION / REDUCTION POTENTIAL PROBE
S	SAMPLER
J	JET AERATOR
P	PUMP
M	MAGNETIC FLOW METER
V	VALVE



DESIGNED: DAN  
DRAWN: KLR

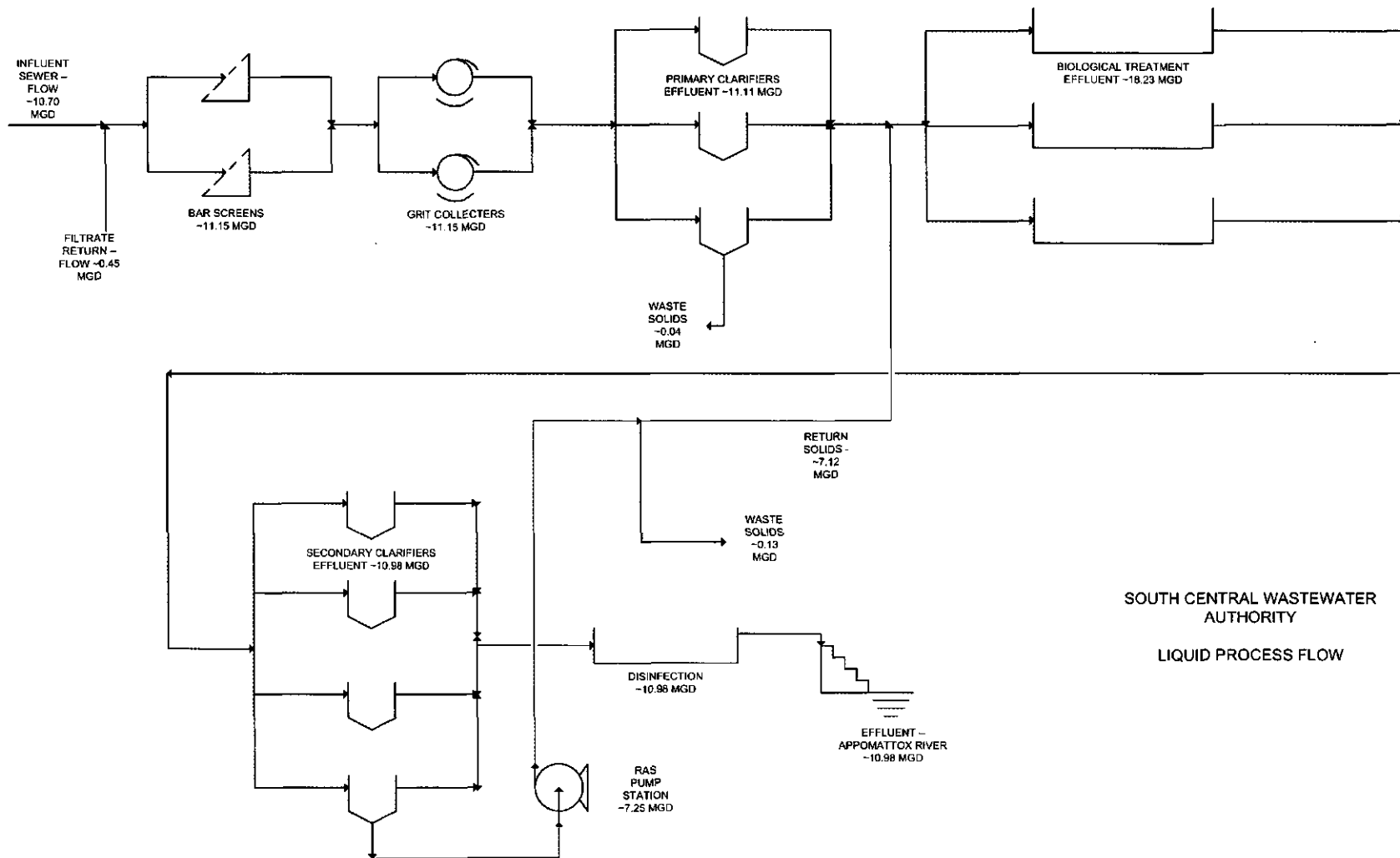


**HAZEN AND SAWYER**

CITY OF PETERSBURG, VIRGINIA  
DEPARTMENT OF PUBLIC UTILITIES

GENERAL

DATE: OCTOBER 1993  
H. & S. JOB NUMBER: 3510  
THE SCALE BAR SHOWN BELOW MEASURES ONE INCH LONG ON THE DRAWING



SOUTH CENTRAL WASTEWATER  
AUTHORITY

LIQUID PROCESS FLOW



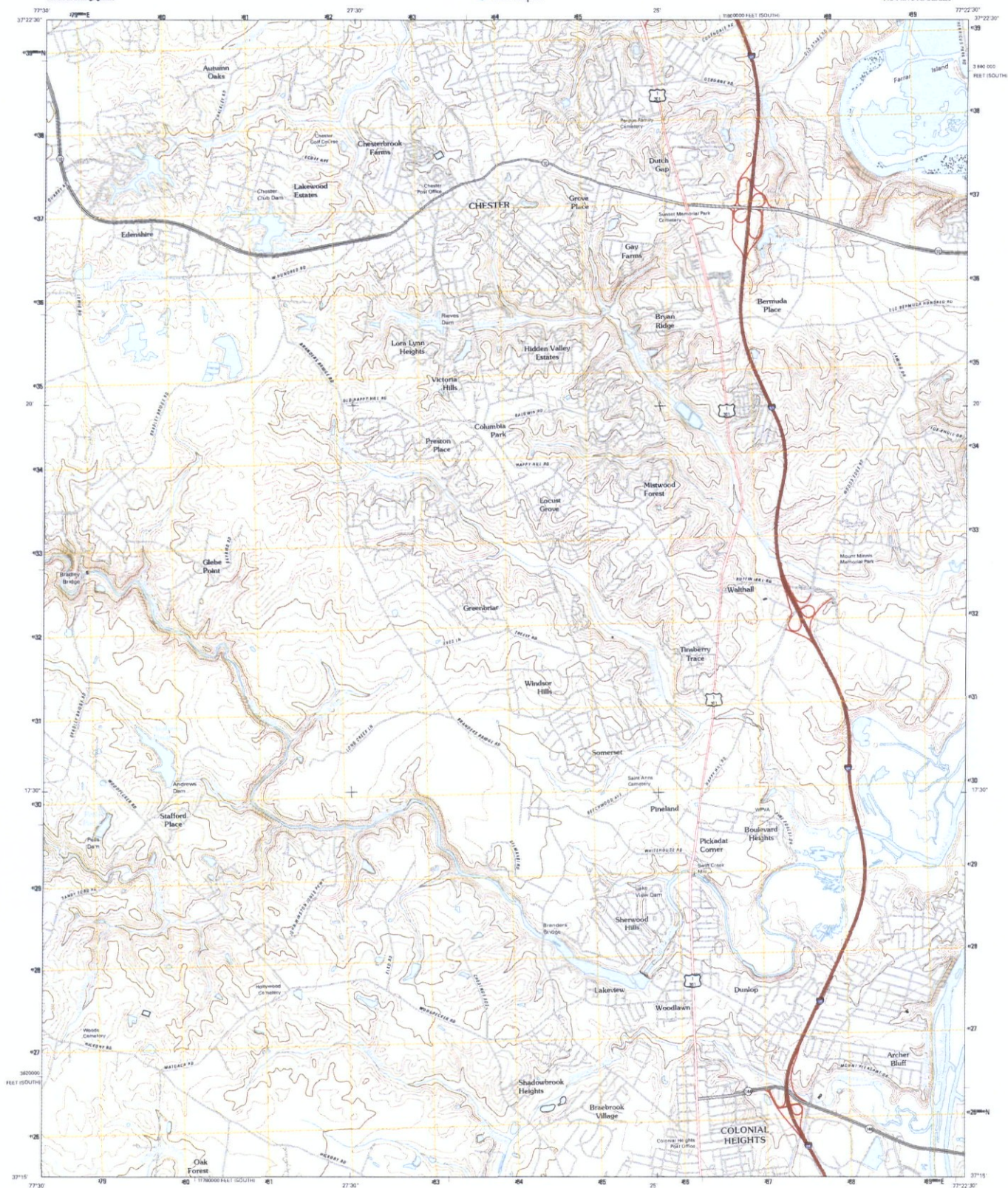




U.S. DEPARTMENT OF THE INTERIOR  
U. S. GEOLOGICAL SURVEY

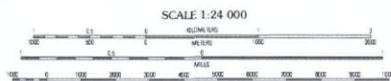
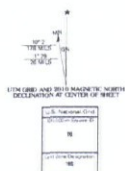


CHESTER QUADRANGLE  
VIRGINIA  
7.5-MINUTE SERIES



Produced by the United States Geological Survey  
North American Datum of 1983 (NAD83)  
World Geodetic System of 1984 (WGS84) Projection used  
1:100,000 scale (North American Datum of 1983)  
20 000 feet (North American Datum of 1983)  
(South point)

Images: NAD, June 2009  
Roads: 02/06-2010 T-100  
Names: 02/06-2010 T-100  
Hydrography: National Hydrography Dataset, 2009  
Contours: National Contour Dataset, 1998



SCALE 1:24 000  
CONTOUR INTERVAL 10 FEET  
NORTH AMERICAN DATUM OF 1983

This map was produced to conform with section 5.5.10 of the  
draft USGS Standards for 7.5-Minute Contour Map.  
A revision to the standard with this product is shown section 5.5.11



ROAD CLASSIFICATION  
Interstate Route  
US Route  
Ramp  
State Route  
Local Road  
4WD  
State Route

CHESTER, VA  
2010





U.S. DEPARTMENT OF THE INTERIOR  
U. S. GEOLOGICAL SURVEY

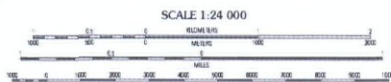


HOPEWELL QUADRANGLE  
VIRGINIA  
7.5-MINUTE SERIES  
TO US



Produced by the United States Geological Survey  
North American Datum of 1983 (NAD83)  
World Geodetic System of 1984 (WGS84) Projection and  
1 000-meter grid Universal Transverse Mercator Zone 18S  
10 500-foot scale Virginia Coordinate System of 1985  
(South zone)

Imagery: NADP, June 2009  
Base: 2009-2010 3 m Airphoto  
Vector: LADS, 2009  
Hydrography: National Hydrography Dataset, 2009  
Contours: National Elevation Dataset, 2008



CONTOUR INTERVAL 10 FEET  
NORTH AMERICAN DATUM OF 1983  
This map was produced to conform with version 0.5.10 of the  
data (USGS) provided for 7.5-Minute Quadrangle Maps.  
A standard file associated with this product is disk version 0.5.11

Feature	Symbol	Feature	Symbol
Drainage	Blue line	Quarry	Blue square
Drainage	Blue line	Quarry	Blue square
Drainage	Blue line	Quarry	Blue square
Drainage	Blue line	Quarry	Blue square
Drainage	Blue line	Quarry	Blue square
Drainage	Blue line	Quarry	Blue square
Drainage	Blue line	Quarry	Blue square
Drainage	Blue line	Quarry	Blue square
Drainage	Blue line	Quarry	Blue square
Drainage	Blue line	Quarry	Blue square

ROAD CLASSIFICATION	Symbol
Interstate Route	Thick red line
US Route	Thin red line
State Route	Thin red line
Local Road	Thin red line
Interstate	Thick red line
US Route	Thin red line
State Route	Thin red line
Local Road	Thin red line

HOPEWELL, VA  
2010



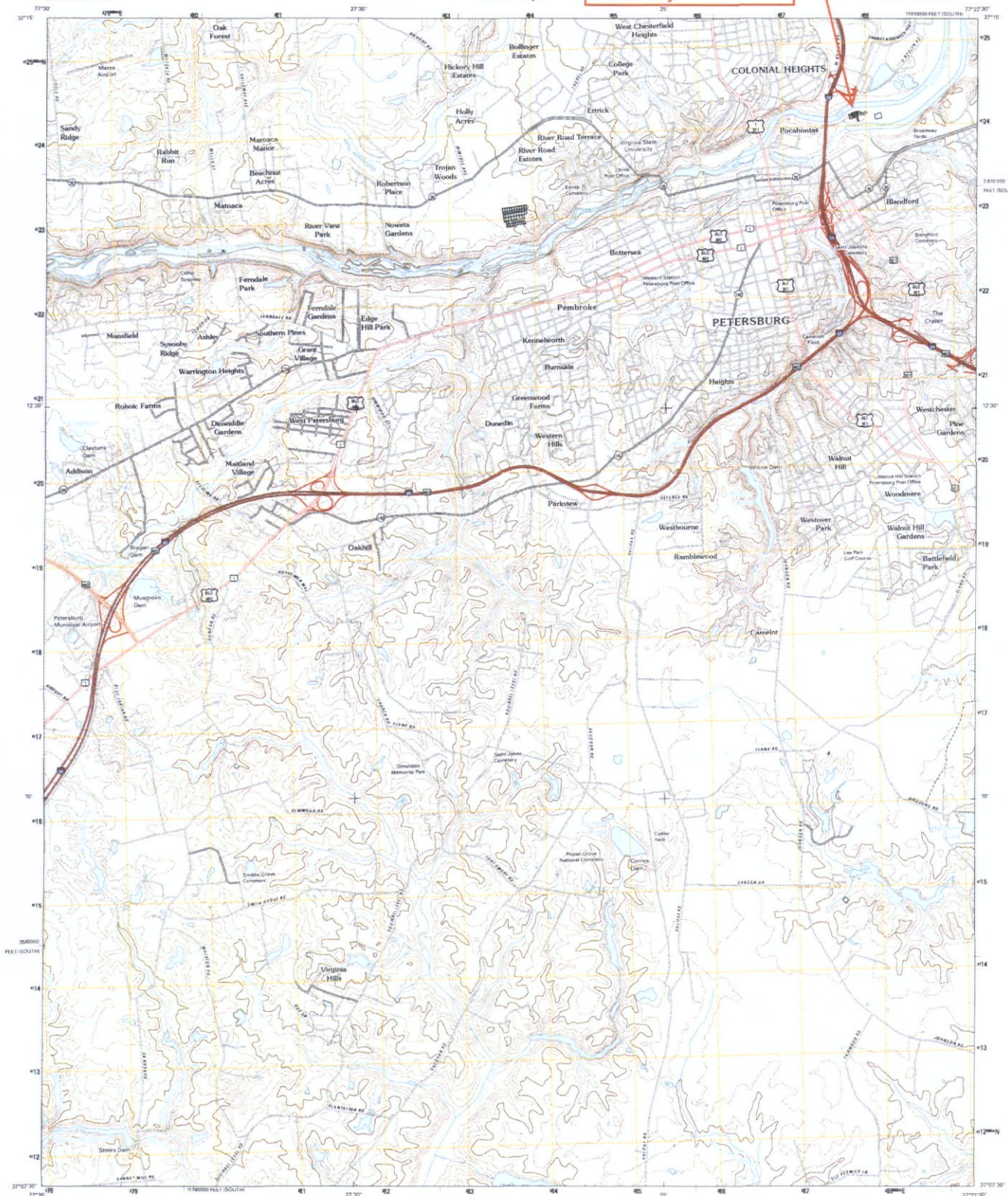


U.S. DEPARTMENT OF THE INTERIOR  
U.S. GEOLOGICAL SURVEY



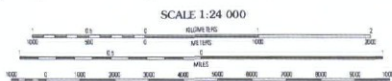
# South Central Wastewater Authority

PETERSBURG QUADRANGLE  
VIRGINIA  
7.5-MINUTE SERIES



Produced by the United States Geological Survey  
North American Datum of 1983 (NAD83)  
World Geodetic System of 1984 (WGS84), Projection and  
1:50,000 scale grid. Universal Transverse Mercator Zone 18S  
20 000-foot scale. Virginia Coordinate System of 1985  
(South zone)

Images: NIP, June 2009  
Base: 02000-2010 Topo Atlas  
Neatline: 02000-2010 Topo Atlas  
Photography: National Hydrographic Dataset, 2000  
Contours: National Elevation Dataset, 2000



SCALE 1:24 000  
CONTOUR INTERVAL 10 FEET  
NORTH AMERICAN VERTICAL DATUM OF 1983

This map was produced in conformance with version 0.5.10 of the  
draft USGS Standards for 7.5-Minute Quadrangle Maps.  
A metadata file associated with this product is available at 0.5.11

ROAD CLASSIFICATION		
Interstate Route	State Route	Local Road
US Route	State Route	Local Road
Ramp	Interstate Route	US Route
	State Route	State Route

PETERSBURG, VA  
2010

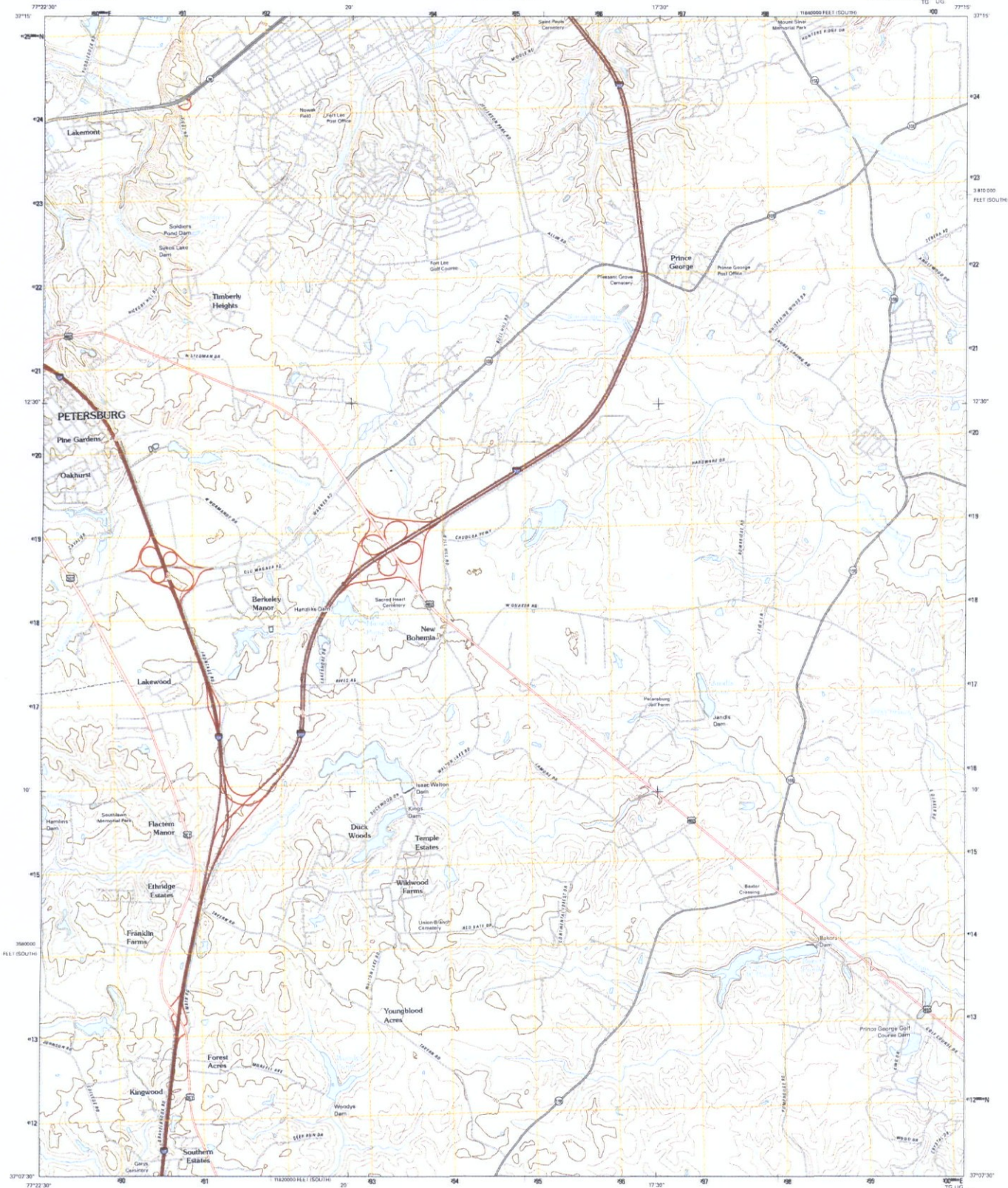




U.S. DEPARTMENT OF THE INTERIOR  
U. S. GEOLOGICAL SURVEY

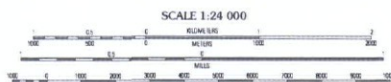
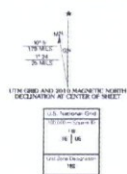


PRINCE GEORGE QUADRANGLE  
VIRGINIA  
7.5-MINUTE SERIES  
TO UG



Produced by the United States Geological Survey  
North American Datum of 1983 (NAD83)  
World Geodetic System of 1984 (WGS84) Projection used  
1:50,000 scale and Universal Transverse Mercator Zone 18S  
10 000-foot scale, Virginia Coordinate System of 1983  
North arrow

Images: NAD 2000  
Data: 2000  
Topography: National Hydrographic Dataset, 2000  
Contours: National Elevation Dataset, 2000



CONTOUR INTERVAL: 10 FEET  
NORTH AMERICAN DATUM OF 1983  
This map was produced in accordance with version 5.5.10 of the  
data USGS standards for 7.5-Minute Quadrangle Maps.  
A watermark for this product is shown version 5.5.11



ROAD CLASSIFICATION  
Interstate Route  
US Route  
State Route  
Local Road  
BMD  
State Route

PRINCE GEORGE, VA  
2010

## VPDES Permit Application Addendum

1. **Entity to whom the permit is to be issued:** South Central Wastewater Authority

*Who will be legally responsible for the wastewater treatment facilities and compliance with the permit? This may or may not be the facility or property owner.*

2. **Is this facility located within city or town boundaries?** Yes ☒ No ☐

3. **Provide the tax map parcel number for the land where the discharge is located.** \_\_\_\_\_

Chesterfield GPIN 8066123364, Petersburg TM 003010800.

4. **For the facility to be covered by this permit, how many acres will be disturbed during the next five years due to new construction activities?** 0\*

\*If nutrient upgrade is constructed, approximately 9.5 acres.

5. **What is the design average effluent flow of this facility?** 23 MGD

**For industrial facilities, provide the max. 30-day average production level, include units:**

**In addition to the design flow or production level, should the permit be written with limits for any other discharge flow tiers or production levels?** Yes ☐ No ☒

If "Yes", please identify the other flow tiers (in MGD) or production levels:

*Please consider the following questions for both the flow tiers and the production levels (if applicable): Do you plan to expand operations during the next five years? Is your facility's design flow considerably greater than your current flow?*

6. **Nature of operations generating wastewater:**

Discharge of domestic sewage from residences & businesses. Some industrial process flow.

90 % of flow from domestic connections/sources

Number of private residences to be served by the treatment works: Popul. approx. 71,312

10 % of flow from non-domestic connections/sources

7. **Mode of discharge:** ☒ Continuous ☐ Intermittent ☐ Seasonal

Describe frequency and duration of intermittent or seasonal discharges:

8. **Identify the characteristics of the receiving stream at the point just above the facility's discharge point:**

☒ Permanent stream, never dry

☐ Intermittent stream, usually flowing, sometimes dry

☐ Ephemeral stream, wet-weather flow, often dry

☐ Effluent-dependent stream, usually or always dry without effluent flow

☐ Lake or pond at or below the discharge point

☐ Other: \_\_\_\_\_

9. **Approval Date(s):**

**O & M Manual** 8/5/02

**Sludge/Solids Management Plan** 1/1/09

Have there been any changes in your operations or procedures since the above approval dates? Yes ☐ No ☒



## HRSD

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www.hrsd.com

May 15, 2008

### Commissioners

R. Tyler Bland, III  
Chair

Parris D. Carson  
Vice-Chair

Vishnu K. Lakdawala, PhD

B. Anne Davis

Douglas E. Miller

Frederick N. Eloffson, CPA, PFS

Gerald S. Johnson

Edward G. Henifin, P.E.  
General Manager

Bruce W. Husselbee, P.E.  
Director of Engineering

John A. Maniscalco, CPA  
Director of Finance  
& Administration

G. David Waltrip, P.E.  
Director of Treatment

Norman E. LeBlanc  
Director of Water Quality

Christina Stokes  
Lab Manager/Pretreatment Coordinator  
South Central Wastewater Authority  
900 Magazine Road  
Petersburg, VA 23803

### RE: 2A PERMIT APPLICATION – REVISED DATA

Dear Christina:

Enclosed are the revised analytical results the March 19, 2008 sampling event. The compound name was corrected from Mirex to Chlorpyrifos. We apologize for any problems this may have caused.

Reanalysis of Gross Beta Radionuclides is also enclosed as requested.

Emailed data has been sent to James C. Dawson, P.E., Executive Director, SCWWA and to Alan Harrison, Assistant Executive Director, SCWWA.

### Serving the Cities of

Chesapeake

Hampton

Newport News

Norfolk

Poquoson

Portsmouth

Suffolk

Virginia Beach

Williamsburg

### Serving the Counties of

Gloucester

Isle of Wight

James City

King & Queen

King William

Mathews

Middlesex

York

Should you have any questions, please feel free to contact me at (757) 460-4203.

Sincerely,

Robin S. Parnell  
CEL Laboratory Manager

RSP/cmr

Enclosures



# HRSD

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## ANALYTICAL REPORT

Project: South Central WWA- 2A Permit  
Customer Sample ID: Final Effluent  
Project Code: SC  
Sample Point: FB  
Sample Date: 03/19/08

Analyte	Method	Unit	Result	Report Limit <sup>1</sup>	Analyst	Analysis Date	Analysis Time
<b>Total Metals</b>							
Aluminum	EPA 200.7	ug/L	<50	50	SLABOC	03/29/08	13:08
Antimony	EPA 200.7	ug/L	<60	60	SLABOC	03/29/08	08:39
Arsenic	EPA 200.7	ug/L	<60	60	SLABOC	03/29/08	08:39
Barium	EPA 200.7	ug/L	<10	10	SLABOC	03/29/08	08:39
Beryllium	EPA 200.7	ug/L	<2	2	SLABOC	03/29/08	08:39
Cadmium	EPA 200.8	ug/L	<0.50	0.50	CBATO	03/26/08	10:40
Chromium	EPA 200.7	ug/L	<10	10	SLABOC	03/29/08	08:39
Copper	EPA 200.7	ug/L	<2	2	SLABOC	03/29/08	08:39
Iron	EPA 200.7	ug/L	<100	100	SWILLI	04/01/08	15:28
Lead	EPA 200.8	ug/L	<2.0	2.0	CBATO	03/26/08	10:40
Manganese	EPA 200.7	ug/L	<10	10	SLABOC	03/29/08	08:39
Mercury	EPA 245.7	ng/L	<2.0	2.0	CBATO	03/20/08	09:46
Molybdenum	EPA 200.7	ug/L	<10	10	SLABOC	03/29/08	08:39
Nickel	EPA 200.7	ug/L	<10	10	SLABOC	03/29/08	08:39
Selenium	EPA 200.8	ug/L	<2.0	2.0	CBATO	03/26/08	10:40
Silver	EPA 200.8	ug/L	<0.50	0.50	CBATO	03/26/08	10:40
Thallium	EPA 200.7	ug/L	<40	40	SLABOC	03/29/08	08:39
Zinc	EPA 200.7	ug/L	<20	20	SLABOC	03/29/08	08:39
<b>Dissolved Metals</b>							
Aluminum	EPA 200.7	ug/L	<50	50	SLABOC	03/29/08	13:12
Antimony	EPA 200.7	ug/L	<60	60	SLABOC	03/29/08	08:43
Arsenic	EPA 200.7	ug/L	<60	60	SLABOC	03/29/08	08:43
Barium	EPA 200.7	ug/L	<10	10	SLABOC	03/29/08	08:43
Beryllium	EPA 200.7	ug/L	<2	2	SLABOC	03/29/08	08:43
Cadmium	EPA 200.8	ug/L	<0.50	0.50	CBATO	03/26/08	10:44
Chromium III <sup>2</sup>	NA	ug/L	<10	10	SLABOC	03/29/08	08:43
Chromium VI <sup>2</sup>	NA	ug/L	<10	10	SLABOC	03/29/08	08:43
Copper	EPA 200.7	ug/L	<2	2	SLABOC	03/29/08	08:43
Iron	EPA 200.7	ug/L	<100	100	SWILLI	04/01/08	15:32
Lead	EPA 200.8	ug/L	<2.0	2.0	CBATO	03/26/08	10:44
Manganese	EPA 200.7	ug/L	<10	10	SLABOC	03/29/08	08:43
Mercury	EPA 245.7	ng/L	<2.0	2.0	CBATO	03/20/08	10:23
Molybdenum	EPA 200.7	ug/L	<10	10	SLABOC	03/29/08	08:43
Nickel	EPA 200.7	ug/L	<10	10	SLABOC	03/29/08	08:43
Selenium	EPA 200.8	ug/L	<2.0	2.0	CBATO	03/26/08	10:44
Silver	EPA 200.8	ug/L	<0.50	0.50	CBATO	03/26/08	10:44
Thallium	EPA 200.7	ug/L	<40	40	SLABOC	03/29/08	08:43
Zinc	EPA 200.7	ug/L	<40	20	SLABOC	03/29/08	08:43
<b>Volatiles</b>							
Acrolein	EPA 624	ug/L	<10.0	10.0	SLOPEZ	03/20/08	16:18
Acrylonitrile	EPA 624	ug/L	<10.0	10.0	SLOPEZ	03/20/08	16:18
Benzene	EPA 624	ug/L	<10.0	10.0	SLOPEZ	03/20/08	16:18
Bromoform	EPA 624	ug/L	<10.0	10.0	SLOPEZ	03/20/08	16:18

### Notes

<sup>1</sup> Report Limit is lowest concentration at which quantitation is demonstrated.

<sup>2</sup> Chromium III and Chromium VI are based on Total Chromium analytical result by EPA Method 200.7.





## HRSD

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### ANALYTICAL REPORT

Project: South Central WWA- 2A Permit  
Customer Sample ID: Final Effluent  
Project Code: SC  
Sample Point: FB  
Sample Date: 03/19/08

Analyte	Method	Unit	Result	Report Limit <sup>1</sup>	Analyst	Analysis Date	Analysis Time
<u><b>Volatiles</b></u>							
Carbon Tetrachloride	EPA 624	ug/L	<10.0	10.0	SLOPEZ	03/20/08	16:18
Chlorobenzene	EPA 624	ug/L	<10.0	10.0	SLOPEZ	03/20/08	16:18
Chlorodibromomethane	EPA 624	ug/L	<10.0	10.0	SLOPEZ	03/20/08	16:18
Chloroethane	EPA 624	ug/L	<10.0	10.0	SLOPEZ	03/20/08	16:18
2-Chloroethylvinylether	EPA 624	ug/L	<10.0	10.0	SLOPEZ	03/20/08	16:18
Chloroform	EPA 624	ug/L	<10.0	10.0	SLOPEZ	03/20/08	16:18
Dichlorobromomethane	EPA 624	ug/L	<10.0	10.0	SLOPEZ	03/20/08	16:18
1,1 Dichloroethane	EPA 624	ug/L	<10.0	10.0	SLOPEZ	03/20/08	16:18
1,2-Dichloroethane	EPA 624	ug/L	<10.0	10.0	SLOPEZ	03/20/08	16:18
trans 1,2 Dichloroethylene	EPA 624	ug/L	<10.0	10.0	SLOPEZ	03/20/08	16:18
1,1 Dichloroethylene	EPA 624	ug/L	<10.0	10.0	SLOPEZ	03/20/08	16:18
1,2-Dichloropropane	EPA 624	ug/L	<10.0	10.0	SLOPEZ	03/20/08	16:18
1,3-Dichloropropylene <sup>2</sup>	EPA 624	ug/L	<20.0	20.0	SLOPEZ	03/20/08	16:18
Ethylbenzene	EPA 624	ug/L	<10.0	10.0	SLOPEZ	03/20/08	16:18
Methyl bromide	EPA 624	ug/L	<10.0	10.0	SLOPEZ	03/20/08	16:18
Methyl chloride	EPA 624	ug/L	<10.0	10.0	SLOPEZ	03/20/08	16:18
Methylene chloride	EPA 624	ug/L	<10.0	10.0	SLOPEZ	03/20/08	16:18
1,1,2,2-Tetrachloroethane	EPA 624	ug/L	<10.0	10.0	SLOPEZ	03/20/08	16:18
Tetrachloroethylene	EPA 624	ug/L	<10.0	10.0	SLOPEZ	03/20/08	16:18
Toluene	EPA 624	ug/L	<10.0	10.0	SLOPEZ	03/20/08	16:18
1,1,1-Trichloroethane	EPA 624	ug/L	<10.0	10.0	SLOPEZ	03/20/08	16:18
1,1,2-Trichloroethane	EPA 624	ug/L	<10.0	10.0	SLOPEZ	03/20/08	16:18
Trichloroethylene	EPA 624	ug/L	<10.0	10.0	SLOPEZ	03/20/08	16:18
Vinyl chloride	EPA 624	ug/L	<10.0	10.0	SLOPEZ	03/20/08	16:18
1,2 Dichlorobenzene	EPA 624	ug/L	<10.0	10.0	SLOPEZ	03/20/08	16:18
1,3 Dichlorobenzene	EPA 624	ug/L	<10.0	10.0	SLOPEZ	03/20/08	16:18
1,4 Dichlorobenzene	EPA 624	ug/L	<10.0	10.0	SLOPEZ	03/20/08	16:18
<u><b>Acid Extractable Compounds</b></u>							
p-Chloro-m-cresol	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	01:07
2-Chlorophenol	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	01:07
2,4-Dichlorophenol	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	01:07
2,4-Dimethylphenol	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	01:07
4,6-Dinitro-o-cresol	EPA 625	ug/L	<20.0	20.0	IGERAS	03/29/08	01:07
2,4-Dinitrophenol	EPA 625	ug/L	<20.0	20.0	IGERAS	03/29/08	01:07
2-Nitrophenol	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	01:07
4-Nitrophenol	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	01:07
Pentachlorophenol	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	01:07
Phenol	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	01:07
2,4,6-Trichlorophenol	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	01:07

#### Notes

<sup>1</sup> Report Limit is lowest concentration at which quantitation is demonstrated.

<sup>2</sup> 1,3-Dichloropropylene is the total of cis-1,3-Dichloropropylene and trans-1,3-Dichloropropylene.



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## ANALYTICAL REPORT

Project: South Central WWA- 2A Permit  
Customer Sample ID: Final Effluent  
Project Code: SC  
Sample Point: FB  
Sample Date: 03/19/08

Analyte	Method	Unit	Result	Report Limit <sup>1</sup>	Analyst	Analysis Date	Analysis Time
<b>Base Neutral Compounds</b>							
Acenaphthene	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	01:07
Acenaphthylene	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	01:07
Anthracene	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	01:07
Benzidine	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	01:07
Benzo(a)anthracene	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	01:07
Benzo(a)pyrene	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	01:07
3,4 Benzo fluoranthene	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	01:07
Benzo(k)fluoranthene	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	01:07
Benzo(ghi)perylene	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	01:07
Bis(2-chloroethoxy)methane	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	01:07
Bis(2-chloroethyl)ether	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	01:07
Bis(2-chloroisopropyl)ether	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	01:07
Bis (2-ethylhexyl)phthalate	EPA 625	ug/L	2140	10.0	IGERAS	04/08/08	16:48
4-Bromophenylphenyl ether	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	01:07
Butyl benzyl phthalate	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	01:07
2-Chloronaphthalene	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	01:07
4-Chlorophenylphenyl ether	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	01:07
Chrysene	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	01:07
Dibenz(a,h)anthracene	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	01:07
Di-n-butyl phthalate	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	01:07
Di-n-octyl phthalate	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	01:07
3,3-Dichlorobenzidine	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	01:07
Diethyl phthalate	EPA 625	ug/L	10.4	10.0	IGERAS	03/29/08	01:07
Dimethyl phthalate	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	01:07
2,4-Dinitrotoluene	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	01:07
2,6-Dinitrotoluene	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	01:07
1,2-Diphenylhydrazine <sup>2</sup>	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	01:07
Fluoranthene	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	01:07
Fluorene	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	01:07
Hexachlorobenzene	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	01:07
Hexachlorobutadiene	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	01:07
Hexachlorocyclopentadiene	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	01:07
Hexachloroethane	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	01:07
Indeno(1,2,3-cd)pyrene	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	01:07
Isophorone	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	01:07
Naphthalene	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	01:07
Nitrobenzene	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	01:07
n-Nitrosodi-n-propylamine	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	01:07
n-Nitrosodi-methylamine	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	01:07
n-Nitrosodi-phenylamine <sup>3</sup>	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	01:07
Phenanthrene	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	01:07
Pyrene	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	01:07
1,2,4-Trichlorobenzene	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	01:07

### Notes

<sup>1</sup> Report Limit is lowest concentration at which quantitation is demonstrated.

<sup>2</sup> 1,2-Diphenylhydrazine gets converted to Azobenzene in extraction process.

<sup>3</sup> n-Nitrosodi-phenylamine decomposes in the injection port to Diphenylamine.





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### ANALYTICAL REPORT

Project: South Central WWA- 2A Permit  
Customer Sample ID: Final Effluent  
Project Code: SC  
Sample Point: FB  
Sample Date: 03/19/08

Analyte	Method	Unit	Result	Report Limit <sup>1</sup>	Analyst	Analysis Date	Analysis Time
<b><u>Pesticides &amp; PCB's</u></b>							
Aldrin	EPA 608	ug/L	<0.05	0.05	RPRICE	03/21/08	17:35
Alpha-BHC	EPA 608	ug/L	<0.05	0.05	RPRICE	03/21/08	17:35
Alpha-Endosulfan	EPA 608	ug/L	<0.05	0.05	RPRICE	03/21/08	17:35
Beta-BHC	EPA 608	ug/L	<0.05	0.05	RPRICE	03/21/08	17:35
Beta-Endosulfan	EPA 608	ug/L	<0.05	0.05	RPRICE	03/21/08	17:35
Chlordane	EPA 608	ug/L	ND	0.20	RPRICE	03/21/08	17:35
delta-BHC	EPA 608	ug/L	<0.05	0.05	RPRICE	03/21/08	17:35
4,4-DDD	EPA 608	ug/L	<0.05	0.05	RPRICE	03/21/08	17:35
4,4-DDE	EPA 608	ug/L	<0.05	0.05	RPRICE	03/21/08	17:35
4,4-DDT	EPA 608	ug/L	<0.05	0.05	RPRICE	03/21/08	17:35
Dieldrin	EPA 608	ug/L	<0.05	0.05	RPRICE	03/21/08	17:35
Endosulfan sulfate	EPA 608	ug/L	<0.05	0.05	RPRICE	03/21/08	17:35
Endrin	EPA 608	ug/L	<0.05	0.05	RPRICE	03/21/08	17:35
Endrin aldehyde	EPA 608	ug/L	<0.05	0.05	RPRICE	03/21/08	17:35
Heptachlor	EPA 608	ug/L	<0.05	0.05	RPRICE	03/21/08	17:35
Heptachlor epoxide	EPA 608	ug/L	<0.05	0.05	RPRICE	03/21/08	17:35
Lindane (gamma-BHC)	EPA 608	ug/L	<0.05	0.05	RPRICE	03/21/08	17:35
Methoxychlor	EPA 608	ug/L	<0.05	0.05	RPRICE	03/21/08	17:35
Mirex	EPA 608	ug/L	<0.05	0.05	RPRICE	03/21/08	17:35
Kepone	EPA 608	ug/L	<0.80	0.80	RPRICE	03/24/08	17:51
PCB 1016	EPA 608	ug/L	ND	1.00	RPRICE	03/21/08	17:35
PCB 1221	EPA 608	ug/L	ND	1.00	RPRICE	03/21/08	17:35
PCB 1232	EPA 608	ug/L	ND	1.00	RPRICE	03/21/08	17:35
PCB 1242	EPA 608	ug/L	ND	1.00	RPRICE	03/21/08	17:35
PCB 1248	EPA 608	ug/L	ND	1.00	RPRICE	03/21/08	17:35
PCB 1254	EPA 608	ug/L	ND	1.00	RPRICE	03/21/08	17:35
PCB 1260	EPA 608	ug/L	ND	1.00	RPRICE	03/21/08	17:35
PCB Total <sup>2</sup>	EPA 608	ug/L	ND	7.00	RPRICE	03/21/08	17:35
Toxaphene	EPA 608	ug/L	ND	5.00	RPRICE	03/21/08	17:35
<b><u>Organophosphorous Pesticides</u></b>							
Demeton	EPA 622	ug/L	A*	0.20	RPRICE	04/01/08	13:34
Guthion	EPA 622	ug/L	<0.10	0.10	RPRICE	04/01/08	13:34
Malathion	EPA 622	ug/L	<0.10	0.10	RPRICE	04/01/08	13:34
Chlorpyrifos <sup>3</sup>	EPA 622	ug/L	<0.10	0.10	RPRICE	04/01/08	13:34
Parathion	EPA 622	ug/L	<0.10	0.10	RPRICE	04/01/08	13:34

#### Notes

<sup>1</sup> Report Limit is lowest concentration at which quantitation is demonstrated.

<sup>2</sup> PCB Total is the sum concentration of the individual PCB Aroclors.

ND-Sample concentration non-detectable, < MDL.

A\* - data not reported because it failed acceptable QC requirement.

Authorization: Ralin Parnell

Revised Date: 5/15/08

<sup>3</sup>Compound name corrected.



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# ANALYTICAL REPORT

Project: South Central WWA- 2A Permit  
Customer Sample ID: Final Effluent  
Project Code: SC  
Sample Point: FNE  
Sample Date: 03/19/08

Analyte	Method	Unit	Result	Report Limit <sup>1</sup>	Analyst	Analysis Date	Analysis Time
<b>Autochemistry</b>							
COD	HACH8000	mg/L	37	25	JGETTI	03/20/08	07:08
CBOD	SM 5201B	mg/L	2	2	KWILLI	03/20/08	10:42
Cyanide	EPA 335.4	ug/L	<10	10	AMOORE	03/28/08	12:02
Hardness	SM 2340B	mg eq CaCO <sub>3</sub> /L	56.9	0.1	SLABOC	03/29/08	11:36
Nitrate-Nitrogen	Calculation	mg/L	8.77	0.20			
Nitrate/Nitrite- Nitrogen (Nox)	EPA 353.2	mg/L	8.77	0.20	VJOHNS	03/20/08	14:22
Nitrite-Nitrogen	EPA 353.2	mg/L	<0.01	0.01	VJOHNS	03/20/08	10:03
Ammonia w/ Distillation	EPA 350.1	mg/L	<0.20	0.20	KSMITH	04/02/08	10:44
Total Kjeldahl Nitrogen	EPA 351.2	mg/L	1.34	0.50	VJOHNS	03/21/08	12:03
Total Phosphorous	EPA 365.1	mg/L	1.03	0.20	LREED	03/20/08	13:52
Total Dissolved Solids	SM 2540C	mg/L	307	1.0	TGAY	03/20/08	13:30
TSS	SM 2540D	mg/L	4.6	1.0	RCASTR	03/19/08	16:32
Oil & Grease (HEM)	EPA 1664A	mg/L	<5.0	5.0	RMORGA	03/26/08	06:45
Total Phenol	EPA 420.2	mg/L	<0.05	0.05	AMOORE	03/28/08	14:35
Sulfide (Hydrogen Sulfide)	ASTM D 4658-03	mg/L	<0.3	0.3	RMORGA	03/24/08	07:05
Sulfate	ASTM D 576-02	mg/L	37.2	5.0	RMORGA	03/25/08	09:45
MBAS	SM 5540C	mg/L	<0.03	0.03	RMORGA	03/20/08	06:50
Chlorides	SM 4500Cl <sup>-</sup> B	mg/L	60	1.0	JGETTI	03/24/08	13:22
<b>Total Metals</b>							
Aluminum	EPA 200.7	ug/L	176	50	SLABOC	03/29/08	13:15
Antimony	EPA 200.7	ug/L	<60	60	SLABOC	03/29/08	08:47
Arsenic	EPA 200.7	ug/L	<60	60	SLABOC	03/29/08	08:47
Barium	EPA 200.7	ug/L	<10	10	SLABOC	03/29/08	08:47
Beryllium	EPA 200.7	ug/L	<2	2	SLABOC	03/29/08	08:47
Cadmium	EPA 200.8	ug/L	<0.50	0.50	CBATO	03/26/08	11:02
Chromium	EPA 200.7	ug/L	<10	10	SLABOC	03/29/08	08:47
Copper	EPA 200.7	ug/L	7	2	SLABOC	03/29/08	08:47
Iron	EPA 200.7	ug/L	<100	100	SWILLI	04/01/08	15:37
Lead	EPA 200.8	ug/L	<2.0	2.0	CBATO	03/26/08	11:02
Manganese	EPA 200.7	ug/L	31	10	SLABOC	03/29/08	08:47
Mercury	EPA 245.7	ng/L	4.7	2.0	CBATO	03/20/08	10:09
Molybdenum	EPA 200.7	ug/L	<10	10	SLABOC	03/29/08	08:47
Nickel	EPA 200.7	ug/L	<10	10	SLABOC	03/29/08	08:47
Selenium	EPA 200.8	ug/L	<2.0	2.0	CBATO	03/26/08	11:02
Silver	EPA 200.8	ug/L	<0.50	0.50	CBATO	03/26/08	11:02
Thallium	EPA 200.7	ug/L	<40	40	SLABOC	03/29/08	08:47
Zinc	EPA 200.7	ug/L	40	20	SLABOC	03/29/08	08:47
<b>Dissolved Metals</b>							
Aluminum	EPA 200.7	ug/L	54	50	SLABOC	03/29/08	13:38
Antimony	EPA 200.7	ug/L	<60	60	SLABOC	03/29/08	09:18
Arsenic	EPA 200.7	ug/L	<60	60	SLABOC	03/29/08	09:18
Barium	EPA 200.7	ug/L	<10	10	SLABOC	03/29/08	09:18
Beryllium	EPA 200.7	ug/L	<2	2	SLABOC	03/29/08	09:18

## Notes

<sup>1</sup> Report Limit is lowest concentration at which quantitation is demonstrated.



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## ANALYTICAL REPORT

Project: South Central WWA- 2A Permit  
Customer Sample ID: Final Effluent  
Project Code: SC  
Sample Point: FNE  
Sample Date: 03/19/08

Analyte	Method	Unit	Result	Report Limit <sup>1</sup>	Analyst	Analysis Date	Analysis Time
<b><u>Dissolved Metals</u></b>							
Cadmium	EPA 200.8	ug/L	<0.50	0.50	CBATO	03/26/08	10:49
Chromium III <sup>3</sup>	NA	ug/L	<10	10	SLABOC	03/29/08	09:18
Chromium VI <sup>3</sup>	NA	ug/L	<10	10	SLABOC	03/29/08	09:18
Copper	EPA 200.7	ug/L	6	2	SLABOC	03/29/08	09:18
Iron	EPA 200.7	ug/L	<100	100	SWILLI	04/01/08	16:02
Lead	EPA 200.8	ug/L	<2.0	2.0	CBATO	03/26/08	10:49
Manganese	EPA 200.7	ug/L	29	10	SLABOC	03/29/08	09:18
Mercury	EPA 245.7	ng/L	<2.0	2.0	CBATO	03/20/08	09:50
Molybdenum	EPA 200.7	ug/L	<10	10	SLABOC	03/29/08	09:18
Nickel	EPA 200.7	ug/L	<10	10	SLABOC	03/29/08	09:18
Selenium	EPA 200.8	ug/L	<2.0	2.0	CBATO	03/26/08	10:49
Silver	EPA 200.8	ug/L	<0.50	0.50	CBATO	03/26/08	10:49
Thallium	EPA 200.7	ug/L	<40	40	SLABOC	03/29/08	09:18
Zinc	EPA 200.7	ug/L	38	20	SLABOC	03/29/08	09:18
<b><u>Volatiles</u></b>							
Acrolein <sup>4</sup>	EPA 624	ug/L	<10.0	10.0	SLOPEZ	03/20/08	18:59
Acrylonitrile	EPA 624	ug/L	<10.0	10.0	SLOPEZ	03/20/08	18:59
Benzene	EPA 624	ug/L	<10.0	10.0	SLOPEZ	03/20/08	18:59
Bromoform	EPA 624	ug/L	<10.0	10.0	SLOPEZ	03/20/08	18:59
Carbon Tetrachloride	EPA 624	ug/L	<10.0	10.0	SLOPEZ	03/20/08	18:59
Chlorobenzene	EPA 624	ug/L	<10.0	10.0	SLOPEZ	03/20/08	18:59
Chlorodibromomethane	EPA 624	ug/L	<10.0	10.0	SLOPEZ	03/20/08	18:59
Chloroethane	EPA 624	ug/L	<10.0	10.0	SLOPEZ	03/20/08	18:59
2-Chloroethylvinylether	EPA 624	ug/L	<10.0	10.0	SLOPEZ	03/20/08	18:59
Chloroform	EPA 624	ug/L	16.8	10.0	SLOPEZ	03/20/08	18:59
Dichlorobromomethane	EPA 624	ug/L	<10.0	10.0	SLOPEZ	03/20/08	18:59
1,1 Dichloroethane	EPA 624	ug/L	<10.0	10.0	SLOPEZ	03/20/08	18:59
1,2-Dichloroethane	EPA 624	ug/L	<10.0	10.0	SLOPEZ	03/20/08	18:59
trans 1,2 Dichloroethylene	EPA 624	ug/L	<10.0	10.0	SLOPEZ	03/20/08	18:59
1,1 Dichloroethylene	EPA 624	ug/L	<10.0	10.0	SLOPEZ	03/20/08	18:59
1,2-Dichloropropane	EPA 624	ug/L	<10.0	10.0	SLOPEZ	03/20/08	18:59
1,3-Dichloropropylene <sup>2</sup>	EPA 624	ug/L	<20.0	20.0	SLOPEZ	03/20/08	18:59
Ethylbenzene	EPA 624	ug/L	<10.0	10.0	SLOPEZ	03/20/08	18:59
Methyl bromide	EPA 624	ug/L	<10.0	10.0	SLOPEZ	03/20/08	18:59
Methyl chloride	EPA 624	ug/L	<10.0	10.0	SLOPEZ	03/20/08	18:59
Methylene chloride	EPA 624	ug/L	<10.0	10.0	SLOPEZ	03/20/08	18:59
1,1,2,2-Tetrachloroethane	EPA 624	ug/L	<10.0	10.0	SLOPEZ	03/20/08	18:59
Tetrachloroethylene	EPA 624	ug/L	<10.0	10.0	SLOPEZ	03/20/08	18:59
Toluene	EPA 624	ug/L	<10.0	10.0	SLOPEZ	03/20/08	18:59
1,1,1-Trichloroethane	EPA 624	ug/L	<10.0	10.0	SLOPEZ	03/20/08	18:59
1,1,2-Trichloroethane	EPA 624	ug/L	<10.0	10.0	SLOPEZ	03/20/08	18:59
Trichloroethylene	EPA 624	ug/L	<10.0	10.0	SLOPEZ	03/20/08	18:59
Vinyl chloride	EPA 624	ug/L	<10.0	10.0	SLOPEZ	03/20/08	18:59
1,2 Dichlorobenzene	EPA 624	ug/L	<10.0	10.0	SLOPEZ	03/20/08	18:59
1,3 Dichlorobenzene	EPA 624	ug/L	<10.0	10.0	SLOPEZ	03/20/08	18:59
1,4 Dichlorobenzene	EPA 624	ug/L	<10.0	10.0	SLOPEZ	03/20/08	18:59

### Notes

<sup>1</sup> Report Limit is lowest concentration at which quantitation is demonstrated.

<sup>2</sup> 1,3-Dichloropropylene is the total of cis-1,3-Dichloropropylene and trans-1,3-Dichloropropylene.

<sup>3</sup> Chromium III and Chromium VI are based on Total Chromium analytical result by EPA Method 200.7.

<sup>4</sup> Acrolein was lost in the sample matrix spike due to matrix interference but was acceptable in the Laboratory Fortified Blank.



# HRSD

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www.hrsd.com

## ANALYTICAL REPORT

Project: South Central WWA- 2A Permit  
Customer Sample ID: Final Effluent  
Project Code: SC  
Sample Point: FNE  
Sample Date: 03/19/08

Analyte	Method	Unit	Result	Report Limit <sup>1</sup>	Analyst	Analysis Date	Analysis Time
<b><u>Acid Extractable Compounds</u></b>							
p-Chloro-m-cresol	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	03:56
2-Chlorophenol	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	03:56
2,4-Dichlorophenol	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	03:56
2,4-Dimethylphenol	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	03:56
4,6-Dinitro-o-cresol	EPA 625	ug/L	<20.0	20.0	IGERAS	03/29/08	03:56
2,4-Dinitrophenol	EPA 625	ug/L	<20.0	20.0	IGERAS	03/29/08	03:56
2-Nitrophenol	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	03:56
4-Nitrophenol	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	03:56
Pentachlorophenol	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	03:56
Phenol	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	03:56
2,4,6-Trichlorophenol	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	03:56
<b><u>Base Neutral Compounds</u></b>							
Acenaphthene	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	03:56
Acenaphthylene	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	03:56
Anthracene	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	03:56
Benzidine	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	03:56
Benzo(a)anthracene	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	03:56
Benzo(a)pyrene	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	03:56
3,4 Benzo fluoranthene	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	03:56
Benzo(k)fluoranthene	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	03:56
Benzo(ghi)perylene	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	03:56
Bis(2-chloroethoxy)methane	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	03:56
Bis(2-chloroethyl)ether	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	03:56
Bis(2-chloroisopropyl)ether	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	03:56
Bis (2-ethylhexyl) phthalate	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	03:56
4-Bromophenylphenyl ether	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	03:56
Butyl benzyl phthalate	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	03:56
2-Chloronaphthalene	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	03:56
4-Chlorophenylphenyl ether	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	03:56
Chrysene	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	03:56
Dibenz(a,h)anthracene	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	03:56
Di-n-butyl phthalate	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	03:56
Di-n-octyl phthalate	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	03:56
3,3-Dichlorobenzidine	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	03:56
Diethyl phthalate	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	03:56
Dimethyl phthalate	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	03:56
2,4-Dinitrotoluene	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	03:56
2,6-Dinitrotoluene	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	03:56
1,2-Diphenylhydrazine <sup>2</sup>	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	03:56
Fluoranthene	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	03:56
Fluorene	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	03:56
Hexachlorobenzene	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	03:56
Hexachlorobutadiene	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	03:56
Hexachlorocyclopentadiene	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	03:56
Hexachloroethane	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	03:56
Indeno(1,2,3-cd)pyrene	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	03:56
Isophorone	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	03:56

### Notes

<sup>1</sup> Report Limit is lowest concentration at which quantitation is demonstrated.

<sup>2</sup> 1,2-Diphenylhydrazine gets converted to Azobenzene in extraction process.



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### ANALYTICAL REPORT

Project: South Central WWA- 2A Permit  
Customer Sample ID: Final Effluent  
Project Code: SC  
Sample Point: FNE  
Sample Date: 03/19/08

Analyte	Method	Unit	Result	Report Limit <sup>1</sup>	Analyst	Analysis Date	Analysis Time
<b><u>Base Neutral Compounds</u></b>							
Naphthalene	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	03:56
Nitrobenzene	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	03:56
n-Nitrosodi-n-propylamine	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	03:56
n-Nitrosodi-methylamine	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	03:56
n-Nitrosodi-phenylamine <sup>3</sup>	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	03:56
Phenanthrene	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	03:56
Pyrene	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	03:56
1,2,4-Trichlorobenzene	EPA 625	ug/L	<10.0	10.0	IGERAS	03/29/08	03:56
<b><u>Pesticides &amp; PCB's</u></b>							
Aldrin	EPA 608	ug/L	<0.05	0.05	RPRICE	03/21/08	17:50
Alpha-BHC	EPA 608	ug/L	<0.05	0.05	RPRICE	03/21/08	17:50
Alpha-Endosulfan	EPA 608	ug/L	<0.05	0.05	RPRICE	03/21/08	17:50
Beta-BHC	EPA 608	ug/L	<0.05	0.05	RPRICE	03/21/08	17:50
Beta-Endosulfan	EPA 608	ug/L	<0.05	0.05	RPRICE	03/21/08	17:50
Chlordane	EPA 608	ug/L	ND	0.20	RPRICE	03/21/08	17:50
delta-BHC	EPA 608	ug/L	<0.05	0.05	RPRICE	03/21/08	17:50
4,4-DDD	EPA 608	ug/L	A*	0.05	RPRICE	03/21/08	17:50
4,4-DDE	EPA 608	ug/L	<0.05	0.05	RPRICE	03/21/08	17:50
4,4-DDT	EPA 608	ug/L	<0.05	0.05	RPRICE	03/21/08	17:50
Dieldrin	EPA 608	ug/L	<0.05	0.05	RPRICE	03/21/08	17:50
Endosulfan sulfate	EPA 608	ug/L	<0.05	0.05	RPRICE	03/21/08	17:50
Endrin	EPA 608	ug/L	<0.05	0.05	RPRICE	03/21/08	17:50
Endrin aldehyde	EPA 608	ug/L	<0.05	0.05	RPRICE	03/21/08	17:50
Heptachlor	EPA 608	ug/L	<0.05	0.05	RPRICE	03/21/08	17:50
Heptachlor epoxide	EPA 608	ug/L	<0.05	0.05	RPRICE	03/21/08	17:50
Lindane (gamma-BHC)	EPA 608	ug/L	<0.05	0.05	RPRICE	03/21/08	17:50
Methoxychlor	EPA 608	ug/L	<0.05	0.05	RPRICE	03/21/08	17:50
Mirex	EPA 608	ug/L	<0.05	0.05	RPRICE	03/21/08	17:50
Kepone	EPA 608	ug/L	<0.80	0.80	RPRICE	03/24/08	18:05
PCB 1016	EPA 608	ug/L	ND	1.00	RPRICE	03/21/08	17:50
PCB 1221	EPA 608	ug/L	ND	1.00	RPRICE	03/21/08	17:50
PCB 1232	EPA 608	ug/L	ND	1.00	RPRICE	03/21/08	17:50
PCB 1242	EPA 608	ug/L	ND	1.00	RPRICE	03/21/08	17:50
PCB 1248	EPA 608	ug/L	ND	1.00	RPRICE	03/21/08	17:50
PCB 1254	EPA 608	ug/L	ND	1.00	RPRICE	03/21/08	17:50
PCB 1260	EPA 608	ug/L	ND	1.00	RPRICE	03/21/08	17:50
PCB Total <sup>2</sup>	EPA 608	ug/L	ND	7.00	RPRICE	03/21/08	17:50
Toxaphene	EPA 608	ug/L	ND	5.00	RPRICE	03/21/08	17:50
<b><u>Organophosphorous Pesticides</u></b>							
Demeton	EPA 622	ug/L	A*	0.20	RPRICE	04/01/08	13:53
Guthion	EPA 622	ug/L	<0.10	0.10	RPRICE	04/01/08	13:53
Malathion	EPA 622	ug/L	<0.10	0.10	RPRICE	04/01/08	13:53
Chlorpyrifos <sup>4</sup>	EPA 622	ug/L	<0.10	0.10	RPRICE	04/01/08	13:53
Parathion	EPA 622	ug/L	<0.10	0.10	RPRICE	04/01/08	13:53

#### Notes

<sup>1</sup> Report Limit is lowest concentration at which quantitation is demonstrated.

<sup>2</sup> PCB Total is the sum concentration of the individual PCB Aroclors.

<sup>3</sup> n-Nitrosodi-phenylamine decomposes in the injection port to Diphenylamine.

ND-Sample concentration non-detectable, < MDL.

A\* - data not reported because it failed acceptable QC requirement.

Authorization:

Robin Parnell

Revised Date:

5/15/08

<sup>4</sup>Compound name corrected.

**REANALYSIS OF  
SUBCONTACTED**

**DATA**

**\***

**GROSS BETA RADIONUCLIDS**



Laboratories LLC

a member of **The GEL Group INC**

&



PO Box 30712 Charleston, SC 29417  
2040 Savage Road Charleston, SC 29407  
P 843.556.8171 F 843.766.1178

[www.gel.com](http://www.gel.com)

May 07, 2008

Kathy Hobson  
Hampton Roads Sanitation District  
Central Environmental Lab  
1432 Air Rail Avenue  
Virginia Beach, Virginia 23455

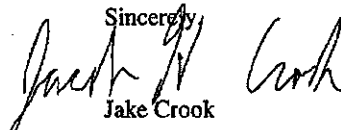
Re: Radiochemistry Analysis  
Work Order: 207162

Dear Kathy Hobson:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on March 25, 2008. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

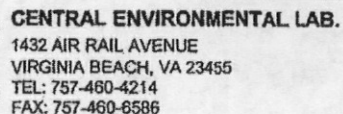
Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4422.

Sincerely,



Jake Crook  
Project Manager

Enclosures



Page 1 of 1

26080337014

PROJECT NAME/CODE: SCWWA Local Limits

### ANALYSES REQUIRED & NUMBER OF CONTAINERS

[illegible]

**\*Preservatives**

Relinquished by / Signature	Date/Time	08/19/08 11:50	COMMENTS	*Hg, Metals	(pH<2 - HNO <sub>3</sub> )
Received by / Signature	Date/Time	8/19/08 11:50		*Clean Metals	(pH<2-HNO <sub>3</sub> , check in section)
Relinquished by / Signature	Date/Time	8/19/08 13:24	Where required, submitted samples were transported in coolers maintained at <6°C (DN)? Int: 141	*O&G	(pH<2 - HCl, check in section) & store <6°C or on ice
Received by / Signature	Date/Time	3-26-08 9:15		*CN	(pH>12 - NaOH) & store <6°C or on ice
Relinquished by / Signature	Date/Time			*Sulfide	(pH>9 - NaOH) & store <6°C or on ice
Received by / Signature	Date/Time			*COD, NO <sub>x</sub> , NH <sub>3</sub>	(pH<2 - H <sub>2</sub> SO <sub>4</sub> ) & store <6°C or on ice
Relinquished by / Signature	Date/Time		Sent out via	*TKN, TP, Phenols	(pH<2 - H <sub>2</sub> SO <sub>4</sub> ) & store <6°C or on ice
Received by / Signature	Date/Time		"Galex"	*BOD, TSS, Turbidity, Micro	Store <6°C or on ice
			Ed's note	*Organics, Surfactant, Sulfate	Store <6°C or on ice

**All sample(s) meet proper \*preservation requirements unless noted.**

Yes ☒ No ☐ By *CH*

Sample Type: B=Batch, C=Composite, G=Grab  
Matrix: L= Liquid, S = Solid

**NOTE: ALL APPLICABLE INFORMATION MUST BE COMPLETED PRIOR TO ACCEPTANCE.**



**CONTRACT LABORATORY INFORMATION**

CLIENT HRSD  
HRSD CONTACT Robin Parnell 757-460-4203  
CONTRACT LAB GEL Laboratories  
CONTRACT LAB CONTACT Jake Crook 1-843-556-8171  
P.O./LSO # 364345  
SAMPLE SHIP DATE

**SAMPLE INFORMATION**

SAMPLE ID	SAMPLE DATE	ANALYSIS REQUIRED	METHOD CODE
SC FNE	03/12/08	Tritium	EPA 906.0
		Strontium 90	EPA 905.0
		Gross Alpha	EPA 900.0
		Gross Beta	EPA 900.0
		Photon Emitters	EPA 901.1

**DATA REPORTING**

Send e-mail of report to: [rparnell@hrsd.com](mailto:rparnell@hrsd.com) &  
[khobson@hrsd.com](mailto:khobson@hrsd.com)

Mail signed original hardcopy to: Kathy Hobson  
1432 Air Rail Ave  
Virginia Beach VA 23455

Mail Invoice to: Kathy Hobson  
1432 Air Rail Ave  
Virginia Beach VA 23455

**FOR HRSD USE ONLY**

Signed Hardcopy of Report Received \_\_\_\_\_  
Invoice Received \_\_\_\_\_

**GEL**

Laboratories LLC

**SAMPLE RECEIPT & REVIEW FORM**

Client: <u>HRSD</u>		SDG/ARCOC/Work Order: <u>205346</u>	
Received By: <u>MS Smith</u>		Date Received: <u>3-25-08</u>	
Suspected Hazard Information	Yes	No	*If Counts > x2 area background on samples not marked "radioactive", contact the Radiation Safety Group of further investigation.
COC/Samples marked as radioactive?			Maximum Counts Observed*: <u>600 CPM</u>
Classified Radioactive II by RSO?			
COC/Samples marked containing PCBs?			
Shipped as a DOT Hazardous?			Hazard Class Shipped: UN#:
Samples identified as Foreign Soil?			

Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1 Shipping containers received intact and sealed?				Circle Applicable: seals broken    damaged container    leaking container    other (describe)
2 Samples requiring cold preservation within (4 +/- 2 C)?				ice bags    blue ice    dry ice    Preservation Method: <u>none</u> other (describe) <u>20c</u>
3 Chain of custody documents included with shipment?				
4 Sample containers intact and sealed?				Circle Applicable: seals broken    damaged container    leaking container    other (describe)
5 Samples requiring chemical preservation at proper pH?				Sample ID's, containers affected and observed pH: If Preservation added, Lot#:
6 VOA vials free of headspace (defined as < 6mm bubble)?				Sample ID's and containers affected:
7 Are Encore containers present?				(If yes, immediately deliver to Volatiles laboratory)
8 Samples received within holding time?				ID's and tests affected:
9 Sample ID's on COC match ID's on bottles?				Sample ID's and containers affected:
10 Date & time on COC match date & time on bottles?				Sample ID's affected:
11 Number of containers received match number indicated on COC?				Sample ID's affected:
12 COC form is properly signed in relinquished/received sections?				

Comments: Teal EX  
8576 9511 1838

PM (or PMA) review: Initials

JML

Date

03/25/08

## **GEL LABORATORIES LLC**

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - [www.gel.com](http://www.gel.com)

### **Certificate of Analysis Report for**

**HRSD001 Hampton Roads Sanitation District  
Client SDG: 207162 GEL Work Order: 207162**

**The Qualifiers in this report are defined as follows:**

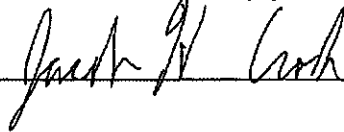
- \* A quality control analyte recovery is outside of specified acceptance criteria
- \*\* Analyte is a surrogate compound
- U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

The designation ND, if present, appears in the result column when the analyte concentration is not detected above the detection limit.

This data report has been prepared and reviewed in accordance with GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, Jake Crook.

Reviewed by



## GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

### Certificate of Analysis

Company : Hampton Roads Sanitation District  
Address : Central Environmental Lab  
1432 Air Rail Avenue  
Virginia Beach, Virginia 23455  
Contact : Kathy Hobson  
Project : Radiochemistry Analysis

Report Date: May 7, 2008

Client Sample ID: Final Effluent  
Sample ID: 207162001  
Matrix: Water  
Collect Date: 19-MAR-08 10:20  
Receive Date: 25-MAR-08  
Collector: Client

Project: HRSD00104  
Client ID: HRSD001

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
<b>Rad Gas Flow Proportional Counting</b>												
<i>GFPC, Gross Beta Liquid "As Received"</i>												
Beta		5.93	+/-2.64	3.43	5.00	pCi/L		DXB5	05/05/08	1539	749444	1

#### The following Analytical Methods were performed

Method	Description	Analyst Comments
1	EPA 900.0	

# GEL LABORATORIES LLC

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## QC Summary

Report Date: May 7, 2008  
Page 1 of 2

Hampton Roads Sanitation District  
Central Environmental Lab  
1432 Air Rail Avenue  
Virginia Beach, Virginia

Contact: Kathy Hobson

Workorder: 207162

Paramname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gas Flow											
Batch	749444										
QC1201565807	206751001	DUP									
Beta		22.0		17.8	pCi/L	21 *		(0% - 20%)	DXB5	05/05/08	17:40
		+/-2.40		+/-2.71							
QC1201565810	LCS										
Beta	218			247	pCi/L		113	(75%-125%)		05/05/08	17:38
				+/-10.3							
QC1201565806	MB										
Beta			U	-1.31	pCi/L					05/05/08	17:40
				+/-0.735							
QC1201565808	206751001	MS									
Beta	654	22.0		743	pCi/L		110	(75%-125%)		05/06/08	15:04
		+/-2.40		+/-32.2							
QC1201565809	206751001	MSD									
Beta	654	22.0		770	pCi/L	4	114	(0%-20%)		05/05/08	17:39
		+/-2.40		+/-33.5							

### Notes:

The Qualifiers in this report are defined as follows:

- \*\* Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- H Analytical holding time was exceeded
- J Value is estimated
- M M if above MDC and less than LLD
- N/A RPD or %Recovery limits do not apply.
- ND Analyte concentration is not detected above the detection limit
- NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- R Sample results are rejected
- U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
- UI Gamma Spectroscopy--Uncertain identification

## GEL LABORATORIES LLC

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### QC Summary

Workorder: 207162

Page 2 of 2

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier										
Y	QC Samples were not spiked with this compound										
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.										
h	Preparation or preservation holding time was exceeded										

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more.

^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.

\* Indicates that a Quality Control parameter was not within specifications.

For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

**List of current GEL Certifications as of 07 May 2008**

<b>State</b>	<b>Certification</b>
Alaska	UST-062
Arizona	AZ0668
Arkansas	88-0651
CLIA	42D0904046
California	01151CA
Colorado	GenEngLabs
Connecticut	PH-0169
Dept. of Navy	NFESC 413
EPA	WG-15J
Florida/NELAP	E87156
Georgia	E87156 (FL/NELAP)
Hawaii	N/A
Idaho	N/A
Illinois	200029
Indiana	C-SC-01
Kansas	E-10332
Kentucky	90129
Louisiana	03046
Maryland	270
Massachusetts	M-SC012
Michigan	9903
Nevada	SC12
New Jersey	SC002
New Mexico	FL NELAP E87156
New York	11501
North Carolina	233
North Carolina Drinking W	45709
North Dakota	R-158
Oklahoma	9904
Pennsylvania	68-00485
South Carolina	10120001/10585001/10120002
Tennessee	02934
Texas NELAP	T104704235-07-TX
U.S. Dept. of Agriculture	S-52597
US Army Corps of Engineer	N/A
Utah	8037697376 GEL
Vermont	VT87156
Virginia	00151
Washington	C1641

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**09/29/09 - South Central Wastewater Authority**  
**Special Study - Cyanide**  
This Analytical report contains 7 pages

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Christina Stokes  
Lab Mgr/Pretreatment Coordinator  
South Central Wastewater Authority  
900 Magazine Road  
Petersburg, VA 23803

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**cc: James C. Dawson, P.E., South Central Wastewater Authority**  
**Alan Harrison, South Central Wastewater Authority**

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**Date Sent: 10/07/09**

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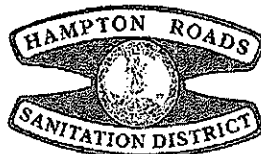
HRSD is in the process of obtaining VELAP/NELAC accreditation from DCLS, the Division of Consolidated Laboratory Services. Analytical test results for methods listed on the laboratory's accreditation scope meet all requirements of VELAP/NELAC unless otherwise noted under the individual analysis.

Test results relate only to the sample tested. Clients should be aware that a critical step in chemical or microbiological analysis is the collection of the sample.

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**SUBMITTED BY:**  
**Hampton Roads Sanitation District / HRSD**  
**Central Environmental Laboratory / CEL**  
**1432 Air Rail Avenue**  
**Virginia Beach, VA 23455-3002**







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## ANALYTICAL REPORT

**Project:** South Central WWA  
**Customer Sample ID:** Final Effluent  
**Project Code:** SC  
**Sample Point:** FNE  
**Sample Date:** 09/29/09

Analyte	Method	Unit	Result	Report Limit <sup>1</sup>	Analyst	Analysis Date	Analysis Time
<i>Classic Chemistry</i>							
Cyanide, Total	EPA335.4	ug/L	13	10	AMOORE	10/02/09	12:13
Cyanide, Free	ASTM D 4282 - 02	ug/L	<10	10	AMOORE	09/30/09	07:15

**Notes:**

<sup>1</sup> Report Limit is lowest concentration at which quantitation is demonstrated.

Authorization: Rolin Parnell

Date: 10/7/09



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**ANALYTICAL REPORT**

**Project:** South Central WWA  
**Customer Sample ID:** Influent  
**Project Code:** SC  
**Sample Point:** INF  
**Sample Date:** 09/29/09

Analyte	Method	Unit	Result	Report Limit <sup>1</sup>	Analyst	Analysis Date	Analysis Time
<u>Classic Chemistry</u>							
Cyanide, Total	EPA335.4	ug/L	<30	30*	AMOORE	10/02/09	12:18
Cyanide, Free	ASTM D 4282 - 02	ug/L	<10	10	AMOORE	09/30/09	07:15

**Notes:**

<sup>1</sup> Report Limit is lowest concentration at which quantitation is demonstrated.

\*The sample required a 3X dilution due to matrix interference resulting in a higher report limit.

**Authorization:** Rolin Parnell

**Date:** 10/7/09



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**ANALYTICAL REPORT**

**Project:** South Central WWA  
**Customer Sample ID:** Primary Effluent  
**Project Code:** SC  
**Sample Point:** PE  
**Sample Date:** 09/29/09

Analyte	Method	Unit	Result	Report Limit <sup>1</sup>	Analyst	Analysis Date	Analysis Time
<u>Classic Chemistry</u>							
Cyanide, Total	EPA335.4	ug/L	<10	10	AMOORE	10/02/09	12:19
Cyanide, Free	ASTM D 4282 - 02	ug/L	<10	10	AMOORE	09/30/09	07:15

**Notes:**

<sup>1</sup> Report Limit is lowest concentration at which quantitation is demonstrated.

**Authorization:** Robin Parnell **Date:** 10/7/09



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## ANALYTICAL REPORT

**Project:** South Central WWA  
**Customer Sample ID:** Final Clarifier #3  
**Project Code:** SC  
**Sample Point:** FC #3  
**Sample Date:** 09/29/09

Analyte	Method	Unit	Result	Report Limit <sup>1</sup>	Analyst	Analysis Date	Analysis Time
<i>Classic Chemistry</i>							
Cyanide, Total	EPA335.4	ug/L	<10	10	AMOORE	10/02/09	12:16
Cyanide, Free	ASTM D 4282 - 02	ug/L	<10	10	AMOORE	09/30/09	07:15

**Notes:**

<sup>1</sup> Report Limit is lowest concentration at which quantitation is demonstrated.

Authorization: Rolin Parnell

Date: 10/7/09



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## ANALYTICAL REPORT

**Project:** South Central WWA  
**Customer Sample ID:** Final Clarifier #4  
**Project Code:** SC  
**Sample Point:** FC #4  
**Sample Date:** 09/29/09

Analyte	Method	Unit	Result	Report Limit <sup>1</sup>	Analyst	Analysis Date	Analysis Time
<i>Classic Chemistry</i>							
Cyanide, Total	EPA335.4	ug/L	<10	10	AMOORE	10/02/09	12:17
Cyanide, Free	ASTM D 4282 - 02	ug/L	<10	10	AMOORE	09/30/09	07:15

**Notes:**

<sup>1</sup> Report Limit is lowest concentration at which quantitation is demonstrated.

**Authorization:** Rolin Parnell **Date:** 10/7/09



CENTRAL ENVIRONMENTAL LABORATORY

1432 AIR RAIL AVENUE  
VIRGINIA BEACH, VA 23455  
TEL: 757-460-4214  
FAX: 757-460-6586

### CHAIN OF CUSTODY

## ANALYSES REQUESTED, CGN &amp; NUMBER OF CONTAINERS

PROJECT NAME/CODE: SCWWA VPDES 2A

Project in Lims?  
Yes \_\_\_\_\_  
No ✓

**HRSD Use Only**

Circle One      Circle One

HRSD Use Only

[illegible]

COMMENTS: Final Clo. Fee # 4  
BW 9/24/09

For Ground Water Use Only  
 For Surface Water Use Only  
 For Air Use Only

Temp. Requirement		*Preservatives
Relinquished by / Signature <i>[Signature]</i>	Date/Time <i>7/30/99</i>	*Hg, Metals (pH<2 - HNO3) (Clean metals check in section)
Received by / Signature <i>[Signature]</i>	Date/Time <i>7/30/99</i>	*O&G (pH<2 - HCl, check in section) & store ≤ 6 °C
Relinquished by / Signature	Date/Time	CN <sup>-</sup> (pH>12 - NaOH) & store ≤ 6 °C
Received by / Signature	Date/Time	*Sulfide (pH>9 - NaOH+ZnAc) & store ≤ 6 °C
Relinquished by / Signature	Date/Time	*Micro (Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> + EDTA) & store < 10 °C
Received by / Signature	Date/Time	*COD, NUT, Phenols (pH<2 - H <sub>2</sub> SO <sub>4</sub> ) & store ≤ 6 °C
Relinquished by / Signature	Date/Time	*TOC (pH<2 - H <sub>3</sub> PO <sub>4</sub> ) & store ≤ 6 °C
Received by / Signature	Date/Time	*BOD, TSS, TVSS, Turbidity, Surfactant Sulfate store ≤ 6 °C
		*NUT Non Acidified, Conductivity, Organics store ≤ 6 °C
		*Cr (VI) (pH 9.3 - 9.7 - (NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub> ) & store ≤ 6 °C
All sample(s) met proper *preservation requirements. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Int <i>GL</i>		

Sample Type: C=Composite, G=Grab

Matrix L = Liquid, S = Solid

CGN: Container Group Number

**NOTE: ALL APPLICABLE INFORMATION MUST BE COMPLETED PRIOR TO ACCEPTANCE.**

# **FIELD RECORD (S)**

## SCWWA Grab Field Sheet

### Information checked before the start of sampling event:

1. Average of the last five days FNE flow 10.88 mgd
2. List the last five days FNE TSS data with the most recent last 9/17-1.9, 9/20-2.8,  
9/22-2.9, 9/24-3.1, 9/27-3.3 mg/L
3. Sample event date and time 9/29/09 @ 1340
4. Does RWI have any abnormal characteristics (i.e., odor, color)? Y (N)  
(If yes, describe characteristics in the notes section below.)
5. Sampling personnel: B. Weckwerth, C. White

### Information checked at the end of sampling

1. Are all lids, valves and caps secure (Y)/N
2. FNE TSS for the sampling period 4.5 mg/L
3. FB grab end time / date:  
VOA: 9/29/09 @ 1350
4. FNE grab end time / date:  
VOA: 9/29/09 @ 1400  
FNE Cyanide (Free & Total): 9/29/09 @ 1410  
INF Cyanide (Free & Total): 9/29/09 @ 1440  
PE Cyanide (Free & Total): 9/29/09 @ 1455  
FC#3-FIL Cyanide (Free & Total): 9/29/09 @ 1415  
FC#4-EG Cyanide (Free & Total): 9/29/09 @ 1425

Record any other circumstances which could affect the sample result:

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**09/10/09 and 09/29/09 - South Central Wastewater Authority**  
**09/10/09 - 2 A Permit Application and 09/29/09 resample Acrolein**  
**Report includes Subcontracted Diquat from Underwriters Laboratories**  
**This Analytical report contains 21 pages**

---

**Christina Stokes**  
**Lab Mgr/Pretreatment Coordinator**  
**South Central Wastewater Authority**  
**900 Magazine Road**  
**Petersburg, VA 23803**

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**cc: James C. Dawson, P.E., South Central Wastewater Authority**  
**Alan Harrison, South Central Wastewater Authority**

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**Date Sent: 10/06/09**

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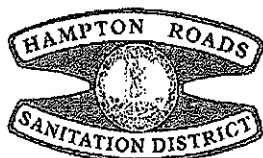
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**Central Environmental Laboratory / CEL**  
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## ANALYTICAL REPORT

**Project:** South Central WWA- 2A Permit Application  
**Customer Sample ID:** Field Blank  
**Project Code:** SC  
**Sample Point:** FB  
**Sample Date:** 09/10/09

Analyte	Method	Unit	Result	Report Limit <sup>1</sup>	Analyst	Analysis Date	Analysis Time
<b><u>Dissolved Metals</u></b>							
Aluminum	ICP 200.7	ug/L	<50	50	SLABOC	09/24/09	09:45
Antimony	ICP 200.7	ug/L	<100	100	SLABOC	09/24/09	09:45
Arsenic	ICP 200.7	ug/L	<60	60	SWILLI	09/23/09	11:53
Beryllium	ICP 200.7	ug/L	<2	2	SWILLI	09/23/09	11:53
Cadmium	ICP 200.8	ug/L	<0.50	0.50	CBATO	09/15/09	10:09
Chromium	ICP 200.7	ug/L	<10	10	SWILLI	09/23/09	11:53
Copper	ICP 200.7	ug/L	<2	2	SWILLI	09/23/09	11:53
Lead	ICP 200.8	ug/L	<2.0	2.0	CBATO	09/15/09	10:09
Mercury	EPA 245.7	ng/L	<3.0	3.0	SWILLI	09/15/09	14:42
Nickel	ICP 200.7	ug/L	<10	10	SWILLI	09/23/09	11:53
Silver	ICP 200.8	ug/L	<0.50	0.50	CBATO	09/15/09	10:09
Thallium	ICP 200.7	ug/L	<40	40	SWILLI	09/23/09	11:53
Zinc	ICP 200.7	ug/L	<20	20	SWILLI	09/23/09	11:53
<b><u>Total Metals</u></b>							
Aluminum	ICP 200.7	ug/L	<50	50	SLABOC	09/24/09	09:41
Antimony	ICP 200.7	ug/L	<100	100	SLABOC	09/24/09	09:41
Arsenic	ICP 200.7	ug/L	<60	60	SWILLI	09/23/09	11:48
Barium	ICP 200.7	ug/L	<10	10	SWILLI	09/23/09	11:48
Beryllium	ICP 200.7	ug/L	<2	2	SWILLI	09/23/09	11:48
Cadmium	ICP 200.8	ug/L	<0.50	0.50	CBATO	09/15/09	10:03
Chromium	ICP 200.7	ug/L	<10	10	SWILLI	09/23/09	11:48
Copper	ICP 200.7	ug/L	<2	2	SWILLI	09/23/09	11:48
Iron	ICP 200.7	ug/L	<100	100	SWILLI	09/23/09	15:12
Lead	ICP 200.8	ug/L	<2.0	2.0	CBATO	09/15/09	10:03
Mercury	EPA 245.7	ng/L	<3.0	3.0	SWILLI	09/15/09	14:46
Molybdenum	ICP 200.7	ug/L	<10	10	SWILLI	09/23/09	11:48
Nickel	ICP 200.7	ug/L	<10	10	SWILLI	09/23/09	11:48
Selenium	ICP 200.8	ug/L	<2.0	2.0	CBATO	09/15/09	10:03
Silver	ICP 200.8	ug/L	<0.50	0.50	CBATO	09/15/09	10:03
Thallium	ICP 200.7	ug/L	<40	40	SWILLI	09/23/09	11:48
Zinc	ICP 200.7	ug/L	<20	20	SWILLI	09/23/09	11:48

**Notes:**

<sup>1</sup> Report Limit is lowest concentration at which quantitation is demonstrated.



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## ANALYTICAL REPORT

**Project:** South Central WWA- 2A Permit Application  
**Customer Sample ID:** Field Blank  
**Project Code:** SC  
**Sample Point:** FB  
**Sample Date:** 09/10/09

Analyte	Method	Unit	Result	Report Limit <sup>1</sup>	Analyst	Analysis Date	Analysis Time
<b><u>Volatile Organics</u></b>							
Acrylonitrile	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	11:52
Benzene	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	11:52
Bromoform	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	11:52
Carbon Tetrachloride	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	11:52
Chlorodibromomethane	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	11:52
Chloroethane	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	11:52
2-Chloro-ethylvinyl Ether	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	11:52
Chloroform	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	11:52
Dichlorobromomethane	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	11:52
1,2 Dichlorobenzene	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	11:52
1,3 Dichlorobenzene	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	11:52
1,4 Dichlorobenzene	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	11:52
1,1-Dichloroethane	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	11:52
1,2-Dichloroethane	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	11:52
1,1-Dichloroethylene	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	11:52
Trans-1,2-Dichloroethylene	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	11:52
1,2-Dichloropropane	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	11:52
1,3 Dichloropropylene (1,3-Dichloropropene) <sup>2</sup>	EPA 624	ug/L	<20.0	20.0	SLOPEZ	09/14/09	11:52
Ethylbenzene	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	11:52
Methyl Bromide	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	11:52
Methyl Chloride	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	11:52
Methylene Chloride (Dichloromethane)	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	11:52
Monochlorobenzene (Chlorobenzene)	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	11:52
1,1,2,2-Tetrachloroethane	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	11:52
Tetrachloroethylene	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	11:52
Toluene	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	11:52
1,1,1-Trichloroethane	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	11:52
1,1,2-Trichloroethane	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	11:52
Trichloroethylene (Trichloroethene)	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	11:52
Vinyl Chloride	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	11:52

### Notes:

<sup>1</sup> Report Limit is lowest concentration at which quantitation is demonstrated.

<sup>2</sup> 1,3-Dichloropropylene is the total of cis-1,3-Dichloropropylene and trans-1,3-Dichloropropylene.



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## ANALYTICAL REPORT

Project: South Central WWA- 2A Permit Application  
Customer Sample ID: Field Blank  
Project Code: SC  
Sample Point: FB  
Sample Date: 09/10/09

Analyte	Method	Unit	Result	Report Limit <sup>1</sup>	Analyst	Analysis Date	Analysis Time
<u><b>Volatile Organics</b></u>							
Acrylonitrile	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	11:52
Benzene	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	11:52
Bromoform	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	11:52
Carbon Tetrachloride	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	11:52
Chlorodibromomethane	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	11:52
Chloroethane	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	11:52
2-Chloro-ethylvinyl Ether	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	11:52
Chloroform	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	11:52
Dichlorobromomethane	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	11:52
1,2 Dichlorobenzene	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	11:52
1,3 Dichlorobenzene	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	11:52
1,4 Dichlorobenzene	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	11:52
1,1-Dichloroethane	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	11:52
1,2-Dichloroethane	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	11:52
1,1-Dichloroethylene	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	11:52
Trans-1,2-Dichloroethylene	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	11:52
1,2-Dichloropropane	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	11:52
1,3 Dichloropropylene (1,3-Dichloropropene) <sup>2</sup>	EPA 624	ug/L	<20.0	20.0	SLOPEZ	09/14/09	11:52
Ethylbenzene	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	11:52
Methyl Bromide	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	11:52
Methyl Chloride	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	11:52
Methylene Chloride (Dichloromethane)	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	11:52
Monochlorobenzene (Chlorobenzene)	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	11:52
1,1,2,2-Tetrachloroethane	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	11:52
Tetrachloroethylene	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	11:52
Toluene	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	11:52
1,1,1-Trichloroethane	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	11:52
1,1,2-Trichloroethane	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	11:52
Trichloroethylene (Trichloroethene)	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	11:52
Vinyl Chloride	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	11:52

### Notes:

<sup>1</sup> Report Limit is lowest concentration at which quantitation is demonstrated.

<sup>2</sup> 1,3-Dichloropropylene is the total of cis-1,3-Dichloropropylene and trans-1,3-Dichloropropylene.



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## ANALYTICAL REPORT

Project: South Central WWA- 2A Permit Application  
Customer Sample ID: Field Blank  
Project Code: SC  
Sample Point: FB  
Sample Date: 09/10/09

Analyte	Method	Unit	Result	Report Limit <sup>1</sup>	Analyst	Analysis Date	Analysis Time
<b><u>Semi-Volatile Organics-Acid Extractables</u></b>							
p-Chloro-m-cresol	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:02
2-Chlorophenol	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:02
2,4 Dichlorophenol	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:02
2,4 Dimethylphenol	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:02
4,6-Dinitro-o-cresol (2-Methyl-4,6-dinitrophenol)	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:02
2,4-Dinitrophenol	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:02
2-Nitrophenol	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:02
4-Nitrophenol	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:02
Pentachlorophenol	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:02
Phenol	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:02
2,4,6 Trichlorophenol	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:02
<b><u>Semi-Volatile Organics - Base Neutral Extractables</u></b>							
Acenaphthene	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:02
Acenaphthylene	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:02
Anthracene	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:02
Benzo(a)anthracene	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:02
Benzo(a)pyrene	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:02
3,4 Benzo-Fluoranthene (Benzo(b)fluoranthene)	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:02
Benzo(GHI)Perylene	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:02
Benzo(k)fluoranthene	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:02
Benzidine	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:02
Bis-(2-Chloroethoxy) Methane	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:02
Bis-(2-chloroethyl)-Ether	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:02
Bis-2-(Chloroisopropyl) Ether	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:02
Bis-2-ethyl hexyl phthalate	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:02
4-Bromophenyl Phenyl Ether	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:02
Butyl benzyl phthalate	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:02
2-Chloronaphthalene	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:02
4-Chlorophenyl Phenyl Ether	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:02
Chrysene	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:02

### Notes:

<sup>1</sup> Report Limit is lowest concentration at which quantitation is demonstrated.



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## ANALYTICAL REPORT

Project: South Central WWA- 2A Permit Application  
Customer Sample ID: Field Blank  
Project Code: SC  
Sample Point: FB  
Sample Date: 09/10/09

Analyte	Method	Unit	Result	Report Limit <sup>1</sup>	Analyst	Analysis Date	Analysis Time
Dibenzo(a,h) anthracene	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:02
Dibutyl phthalate (Di-n-butyl phthalate)	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:02
Di-n-octyl phthalate	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:02
3,3-Dichlorobenzidine	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:02
Diethyl phthalate	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:02
Dimethyl Phthalate	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:02
2,4-Dinitrotoluene	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:02
2,6-Dinitrotoluene	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:02
1,2-Diphenylhydrazine <sup>2</sup>	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:02
Fluoranthene	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:02
Fluorene	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:02
Hexachlorobenzene	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:02
Hexachlorobutadiene	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:02
Hexachlorocyclopentadiene	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:02
Hexachloroethane	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:02
Indeno(1,2,3-cd)pyrene	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:02
Isophorone	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:02
Naphthalene	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:02
Nitrobenzene	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:02
N-Nitrosodi-n-propyl amine	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:02
N-Nitrosodimethylamine	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:02
N-Nitrosodiphenylamine <sup>3</sup>	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:02
Nonylphenol	EPA 625	ug/L	<10.0	10.0	IGERAS	09/24/09	19:27
Phenanthrene	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:02
Pyrene	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:02
1,2,4 Trichlorobenzene	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:02
<u>Pesticides</u>							
4,4-DDD	EPA 608	ug/L	<0.05	0.05	SLOPEZ	09/19/09	19:45
<u>Organophosphorous Pesticides</u>							
Demeton	EPA 622	ug/L	<0.10	0.10	IGERAS	09/16/09	14:56
Diazinon	EPA 622	ug/L	<0.10	0.10	IGERAS	09/16/09	14:56

### Notes:

<sup>1</sup> Report Limit is lowest concentration at which quantitation is demonstrated.

<sup>2</sup> 1,2-Diphenylhydrazine gets converted to Azobenzene in the extraction process.

<sup>3</sup> N-Nitrosodiphenylamine decomposes in the injection port to Diphenylamine.

Authorization: Robin Parnell

Date: 9/30/09



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## ANALYTICAL REPORT

Project: South Central WWA- 2A Permit Application  
Customer Sample ID: Final Effluent  
Project Code: SC  
Sample Point: FNE  
Sample Date: 09/10/09

Analyte	Method	Unit	Report		Analyst	Analysis	Analysis
			Result	Limit <sup>1</sup>		Date	Time
<b><u>Autochemistry</u></b>							
COD	HACH 8000	mg/L	34	25	JGETTI	09/17/09	07:19
CBOD	SM 5210B	mg/L	<2	2	CBOLLI	09/11/09	08:28
Cyanide	EPA 335.4	ug/L	15	10	AMOORE	09/17/09	09:14
Ammonia-N w/Distillation	EPA 350.1	mg/L	<0.20	0.20	LREED	09/11/09	10:11
Nitrate/Nitrite-Nitrogen (NO <sub>x</sub> )	EPA 353.2	mg/L	14.0	0.20	KSMITH	09/15/09	11:21
Nitrate-Nitrogen	Calculation	mg/L	14.0	0.20			
Nitrite-Nitrogen	EPA 353.2	mg/L	<0.01	0.01	GMCCAR	09/11/09	10:27
Chlorides	SM 4500ClB	mg/L	83	5	JGETTI	09/18/09	08:01
Oil & Grease (HEM)	EPA 1664A	mg/L	<5.0	5.0	RMORGA	09/25/09	07:30
Hardness (as CaCO <sub>3</sub> )	SM 2340B	mg eq CaCO <sub>3</sub> /L	53.5	0.2	SWILLI	09/23/09	15:17
<b><u>Dissolved Metals</u></b>							
Aluminum	ICP 200.7	ug/L	66	50	SLABOC	09/24/09	10:12
Antimony	ICP 200.7	ug/L	<100	100	SLABOC	09/24/09	10:12
Arsenic	ICP 200.7	ug/L	<60	60	SWILLI	09/23/09	12:24
Beryllium	ICP 200.7	ug/L	<2	2	SWILLI	09/23/09	12:24
Cadmium	ICP 200.8	ug/L	<0.50	0.50	CBATO	09/15/09	10:51
Chromium	ICP 200.7	ug/L	<10	10	SWILLI	09/23/09	12:24
Copper	ICP 200.7	ug/L	3	2	SWILLI	09/23/09	12:24
Lead	ICP 200.8	ug/L	<2.0	2.0	CBATO	09/15/09	10:51
Mercury	EPA 245.7	ng/L	3.8*	3.0	SWILLI	09/15/09	15:03
Nickel	ICP 200.7	ug/L	<10	10	SWILLI	09/23/09	12:24
Silver	ICP 200.8	ug/L	<0.50	0.50	CBATO	09/15/09	10:51
Thallium	ICP 200.7	ug/L	<40	40	SWILLI	09/23/09	12:24
Zinc	ICP 200.7	ug/L	33	20	SWILLI	09/23/09	12:24

### Notes:

<sup>1</sup> Report Limit is lowest concentration at which quantitation is demonstrated.

\*Value verified with analysis of a second aliquot.



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## ANALYTICAL REPORT

Project: South Central WWA- 2A Permit Application  
Customer Sample ID: Final Effluent  
Project Code: SC  
Sample Point: FNE  
Sample Date: 09/10/09

Analyte	Method	Unit	Result	Report	Analyst	Analysis	Analysis
				Limit <sup>1</sup>		Date	Time
<b><u>Total Metals</u></b>							
Aluminum	ICP 200.7	ug/L	164	50	SLABOC	09/24/09	09:49
Antimony	ICP 200.7	ug/L	<100	100	SLABOC	09/24/09	09:49
Arsenic	ICP 200.7	ug/L	<60	60	SWILLI	09/23/09	11:57
Barium	ICP 200.7	ug/L	<10	10	SWILLI	09/23/09	11:57
Beryllium	ICP 200.7	ug/L	<2	2	SWILLI	09/23/09	11:57
Cadmium	ICP 200.8	ug/L	<0.50	0.50	CBATO	09/15/09	10:15
Chromium	ICP 200.7	ug/L	<10	10	SWILLI	09/23/09	11:57
Copper	ICP 200.7	ug/L	3	2	SWILLI	09/23/09	11:57
Iron	ICP 200.7	ug/L	145	100	SWILLI	09/23/09	15:17
Lead	ICP 200.8	ug/L	<2.0	2.0	CBATO	09/15/09	10:15
Mercury	EPA 245.7	ng/L	<3.0	3.0	SWILLI	09/15/09	15:09
Molybdenum	ICP 200.7	ug/L	<10	10	SWILLI	09/23/09	11:57
Nickel	ICP 200.7	ug/L	<10	10	SWILLI	09/23/09	11:57
Selenium	ICP 200.8	ug/L	<2.0	2.0	CBATO	09/15/09	10:15
Silver	ICP 200.8	ug/L	<0.50	0.50	CBATO	09/15/09	10:15
Thallium	ICP 200.7	ug/L	<40	40	SWILLI	09/23/09	11:57
Zinc	ICP 200.7	ug/L	36	20	SWILLI	09/23/09	11:57
<b><u>Volatile Organics</u></b>							
Acrylonitrile	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	12:20
Benzene	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	12:20
Bromoform	EPA 624	ug/L	83.9	10.0	SLOPEZ	09/14/09	12:20
Carbon Tetrachloride	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	12:20
Chlorodibromomethane	EPA 624	ug/L	17.8	10.0	SLOPEZ	09/14/09	12:20
Chloroethane	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	12:20
2-Chloro-ethylvinyl Ether	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	12:20
Chloroform	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	12:20
Dichlorobromomethane	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	12:20

### Notes:

<sup>1</sup> Report Limit is lowest concentration at which quantitation is demonstrated.





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**ANALYTICAL REPORT**

Project: South Central WWA- 2A Permit Application  
Customer Sample ID: Final Effluent  
Project Code: SC  
Sample Point: FNE  
Sample Date: 09/10/09

Analyte	Method	Unit	Result	Report	Analyst	Analysis	Analysis
				Limit <sup>1</sup>		Date	Time
<u><b>Volatile Organics - cont.</b></u>							
1,2 Dichlorobenzene	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	12:20
1,3 Dichlorobenzene	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	12:20
1,4 Dichlorobenzene	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	12:20
1,1-Dichloroethane	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	12:20
1,2-Dichloroethane	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	12:20
1,1-Dichloroethylene	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	12:20
Trans-1,2-Dichloroethylene	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	12:20
1,2-Dichloropropane	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	12:20
1,3 Dichloropropylene (1,3-Dichloropropene) <sup>2</sup>	EPA 624	ug/L	<20.0	20.0	SLOPEZ	09/14/09	12:20
Ethylbenzene	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	12:20
Methyl Bromide	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	12:20
Methyl Chloride	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	12:20
Methylene Chloride (Dichloromethane)	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	12:20
Monochlorobenzene (Chlorobenzene)	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	12:20
1,1,2,2-Tetrachloroethane	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	12:20
Tetrachloroethylene	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	12:20
Toluene	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	12:20
1,1,1-Trichloroethane	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	12:20
1,1,2-Trichloroethane	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	12:20
Trichloroethylene (Trichloroethene)	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	12:20
Vinyl Chloride	EPA 624	ug/L	<10.0	10.0	SLOPEZ	09/14/09	12:20
<u><b>Semi-Volatile Organics-Acid Extractables</b></u>							
p-Chloro-m-cresol	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:35
2-Chlorophenol	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:35
2,4 Dichlorophenol	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:35
2,4 Dimethylphenol	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:35
4,6-Dinitro-o-cresol (2-Methyl-4,6-dinitrophenol)	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:35
2,4-Dinitrophenol	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:35
2-Nitrophenol	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:35
4-Nitrophenol	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:35
Pentachlorophenol	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:35
Phenol	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:35
2,4,6 Trichlorophenol	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:35

**Notes:**

<sup>1</sup> Report Limit is lowest concentration at which quantitation is demonstrated.

<sup>2</sup> 1,3-Dichloropropylene is the total of cis-1,3-Dichloropropylene and trans-1,3-Dichloropropylene.



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## ANALYTICAL REPORT

**Project:** South Central WWA- 2A Permit Application  
**Customer Sample ID:** Final Effluent  
**Project Code:** SC  
**Sample Point:** FNE  
**Sample Date:** 09/10/09

Analyte	Method	Unit	Result	Report Limit <sup>1</sup>	Analyst	Analysis Date	Analysis Time
<u>Semi-Volatile Organics - Base Neutral Extractables</u>							
Acenaphthene	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:35
Acenaphthylene	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:35
Anthracene	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:35
Benzo(a)anthracene	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:35
Benzo(a)pyrene	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:35
3,4 Benzo-Fluoranthene (Benzo(b)fluoranthene)	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:35
Benzo(GHI)Perylene	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:35
Benzo(k)fluoranthene	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:35
Benzidine	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:35
Bis-(2-Chloroethoxy) Methane	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:35
Bis-(2-chloroethyl)-Ether	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:35
Bis-2-(Chloroisopropyl) Ether	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:35
Bis-2-ethyl hexyl phthalate	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:35
4-Bromophenyl Phenyl Ether	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:35
Butyl benzyl phthalate	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:35
2-Chloronaphthalene	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:35
4-Chlorophenyl Phenyl Ether	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:35
Chrysene	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:35
Dibenzo(a,h) anthracene	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:35
Dibutyl phthalate (Di-n-butyl phthalate)	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:35
Di-n-octyl phthalate	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:35
3,3-Dichlorobenzidine	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:35
Diethyl phthalate	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:35
Dimethyl Phthalate	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:35
2,4-Dinitrotoluene	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:35
2,6-Dinitrotoluene	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:35
1,2-Diphenylhydrazine <sup>2</sup>	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:35

### Notes:

<sup>1</sup> Report Limit is lowest concentration at which quantitation is demonstrated.

<sup>2</sup> 1,2-Diphenylhydrazine gets converted to Azobenzene in the extraction process.



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## ANALYTICAL REPORT

Project: South Central WWA- 2A Permit Application  
Customer Sample ID: Final Effluent  
Project Code: SC  
Sample Point: FNE  
Sample Date: 09/10/09

Analyte	Method	Unit	Result	Report	Analyst	Analysis	Analysis
				Limit <sup>1</sup>		Date	Time
<u>Semi-Volatile Organics - Base Neutral Extractables cont.</u>							
Fluoranthene	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:35
Fluorene	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:35
Hexachlorobenzene	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:35
Hexachlorobutadiene	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:35
Hexachlorocyclopentadiene	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:35
Hexachloroethane	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:35
Indeno(1,2,3-cd)pyrene	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:35
Isophorone	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:35
Naphthalene	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:35
Nitrobenzene	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:35
N-Nitrosodi-n-propyl amine	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:35
N-Nitrosodimethylamine	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:35
N-Nitrosodiphenylamine <sup>2</sup>	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:35
Nonylphenol	EPA 625	ug/L	<10.0	10.0	IGERAS	09/24/09	20:00
Phenanthrene	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:35
Pyrene	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:35
1,2,4 Trichlorobenzene	EPA 625	ug/L	<10.0	10.0	IGERAS	09/16/09	10:35
<u>Pesticides</u>							
4,4-DDD	EPA 608	ug/L	<0.05	0.05	SLOPEZ	09/19/09	20:01
<u>Organophosphorous Pesticides</u>							
Demeton*	EPA 622	ug/L	<0.10	0.10	IGERAS	09/25/09	17:16
Diazinon	EPA 622	ug/L	<0.10	0.10	IGERAS	09/25/09	17:16

### Notes:

<sup>1</sup> Report Limit is lowest concentration at which quantitation is demonstrated.

<sup>2</sup> N-Nitrosodiphenylamine decomposes in the injection port to Diphenylamine.

\*The recovery of Demeton in the Laboratory Fortified Blank was biased low due to possible analytical error. However, the recovery of Demeton in the sample Matrix Spike was within acceptable limit.

Authorization: Rolyn Parnell

Date: 9/30/09

# QUALITY ASSURANCE REPORT

## Level 1

**Project:** South Central WWA- 2A Permit Application  
**Project Code:** SC  
**Sample Point:** FB; FNE (Total and Dissolved Metals)  
**Sample Date:** 09/10/09

Analytical Run Information	Al	Sb	As	Ba	Be	Cd	Cr	Cu	Fe	Pb	Hg	Mo	Ni	Se	Ag	Ti	Zn
Method	200.7	200.7	200.7	200.7	200.7	200.8	200.7	200.7	200.7	200.8	245.7	200.7	200.7	200.8	200.8	200.7	200.7
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Method Detection Limit (MDL)	1.1	20	20	3	0.9	0.006	0.6	0.9	30	0.04	0.9	6	3	0.03	0.015	11	1.2
Report Limit (RL)	50	100	60	10	2	0.50	10	2	100	2.0	3.0	10	10	2.0	0.50	40	20
Average LRB	4.0*	<20	<20	<3	<0.9	<0.006	<0.6	<0.9	63*	<0.04	<0.9	<6	<3	<0.03	<0.015	<11	<1.2
Total Metals	Al	Sb	As	Ba	Be	Cd	Cr	Cu	Fe	Pb	Hg	Mo	Ni	Se	Ag	Ti	Zn
Sample ID: SC FNE TOTAL																	
Matrix Spike Conc.	200	200	200	50	10	1.0	50	20	500	10.0	20.0	50	50	10.0	1.0	100	100
MS Percent Recovery	127%	111%	117%	105%	109%	94%	102%	109%	103%	100%	102%	109%	102%	98%	92%	105%	105%
MSD Percent Recovery	130%	108%	102%	104%	109%	95%	101%	109%	107%	103%	102%	104%	100%	96%	94%	94%	104%
MS/MSD RPD	2	3	15	1	<1	1	<1	<1	3	3	<1	4	2	1	2	10	<1

LRB - Laboratory Reagent Blank

MS - Matrix Spike

MSD - Matrix Spike Duplicate

RPD - Relative Percent Difference

\*Report Limit is lowest concentration at which quantitation is demonstrated. Values below Report Limit should not be used for compliance determinations due to a high degree of uncertainty.

Validated By Sandra Wilson

Date 093009



## CENTRAL ENVIRONMENTAL LABORATORY

1432 AIR RAIL AVENUE  
VIRGINIA BEACH, VA 23455  
TEL: 757-460-4214  
FAX: 757-460-6586

## CHAIN OF CUSTODY

PROJECT NAME/CODE: SCWWA VPDES 2A

## ANALYSES REQUESTED, CGN &amp; NUMBER OF CONTAINERS

PROJECT NAME/CODE: SCWWA VPDES 2A								ANALYSES REQUESTED, CGN & NUMBER OF CONTAINERS																Project in Limb?		
HRSD Use Only								Total Metals (5)	Dissolved Metals (55)	Hg 245.7 (6)	Dissolved Hg 245.7 (56)	Semi Vol (9-9B)	Semi Vol (9-9K)	Nutrients Presc (7)	Nutrients Unprescd (17)	Ammonia (7)	CBOD (1)	COD (2)	Chlorides (12)	VOA (10-10C)	VOA (10-10I)	Oil & Grease (9-9A)	Oil & Grease (8-8A)	Cyanide (4)	HRSD Use Only	
CUSTOMER SAMPLEID	PROJECT CODE	SAMPLE POINT	DATE	TIME	SAMPLED BY	MATRIX	SAMPLE TYPE																		Pres'd Checked	CONT. COUNT
Field Blank	SC	FB	9/10/2009	1212	NW	L	C	1	1	1	1	3													✓	7
Field Blank	SC	FB	9/10/2009	1000	NW	L	G												4						✓	4
Final Effluent	SC	FNE	9/10/2009	1212	NW	L	C	1	1	1	1		12	1	1	1	1	1							✓	22
Final Effluent	SC	FNE	9/10/2009	1010	NW	L	G												10						✓	10
Final Effluent	SC	FNE	9/10/2009	1030	NW	L	G													2					✓	2
Final Effluent	SC	FNE	9/10/2009	1035	NW	L	G														2				✓	2
Final Effluent	SC	FNE	9/10/2009	1015	NW	L	G															1			✓	1

COMMENTS:

Yes/No Water Use Only  
Yes/No BOD/TOC  
Yes/No BOD/TOC

Temp. Requirement		*Preservatives	
Relinquished by / Signature	Date/Time	Where required, submitted samples were transported in coolers maintained at $\leq 6^{\circ}\text{C}$ .	*Hg, Metals (pH<2 - HNO <sub>3</sub> ) (Clean metals check in section)
Received by / Signature	Date/Time	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	*O&G (pH<2 - HCl check in section) & store $\leq 6^{\circ}\text{C}$
Relinquished by / Signature	Date/Time	Int HC	CN <sup>-</sup> (pH>12 - NaOH) & store $\leq 6^{\circ}\text{C}$
Received by / Signature	Date/Time		*Sulfide (pH>9 - NaOH+ZnAc) & store $\leq 6^{\circ}\text{C}$
Relinquished by / Signature	Date/Time		*Micro (Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> + EDTA) & store $< 10^{\circ}\text{C}$
Received by / Signature	Date/Time		*COD, NUT, Phenols (pH<2 - H <sub>2</sub> SO <sub>4</sub> ) & store $\leq 6^{\circ}\text{C}$
Relinquished by / Signature	Date/Time		*TOC (pH<2 - H <sub>2</sub> PO <sub>4</sub> ) & store $\leq 6^{\circ}\text{C}$
Received by / Signature	Date/Time		*BOD, TSS, TVSS, Turbidity, Surfactant, Sulfate store $\leq 6^{\circ}\text{C}$
All sample(s) met proper *preservation requirements.		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	*NUT Non Acidified, Conductivity, Organics store $\leq 6^{\circ}\text{C}$
		Int HC	*Cr (VI) (pH 9.3 - 9.7 - (NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub> ) & store $\leq 6^{\circ}\text{C}$

Sample Type: C=Composite, G=Grab

Matrix: L=Liquid, S=Solid

CGN: Container Group Number

NOTE: ALL APPLICABLE INFORMATION MUST BE COMPLETED PRIOR TO ACCEPTANCE.



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## ANALYTICAL REPORT

Project: South Central WWA- 2A Permit Application  
Customer Sample ID: Field Blank  
Project Code: SC  
Sample Point: FB  
Sample Date: 09/29/09

Analyte	Method	Unit	Result	Report Limit <sup>1</sup>	Analyst	Analysis Date	Analysis Time
<u>Volatile Organics</u>							
Acrolein	EPA 624	ug/L	<20.0	20.0	SLOPEZ	10/01/09	14:29

### Notes:

<sup>1</sup> Report Limit is lowest concentration at which quantitation is demonstrated.

Authorization: Rolin Parnell

Date: 10/2/09



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## ANALYTICAL REPORT

Project: South Central WWA- 2A Permit Application  
Customer Sample ID: Final Effluent  
Project Code: SC  
Sample Point: FNE  
Sample Date: 09/29/09

Analyte	Method	Unit	Result	Report Limit <sup>1</sup>	Analyst	Analysis Date	Analysis Time
<u>Volatile Organics</u>							
Acrolein	EPA 624	ug/L	<20.0	20.0	SLOPEZ	10/01/09	15:55

### Notes:

<sup>1</sup> Report Limit is lowest concentration at which quantitation is demonstrated.

The recovery of Acrolein in the sample matrix spike was below the acceptable limit due to possible matrix effect. However, the recovery of Acrolein in the laboratory fortified blank and all surrogate QC standards were all within acceptable limit.

Authorization: Robin Parnell

Date: 10/2/09



## CHAIN OF CUSTODY

PROJECT NAME/CODE: SCWWA VPDES 2A

ANALYSES REQUESTED, CGN &amp; NUMBER OF CONTAINERS

Project in Lims?   
 Yes \_\_\_\_\_   
 No 11

HRSD Use Only

Presy'd	CONT.
Checked	COUNT

COMMENTS: Final Cloc. for # 4  
BW 9/24/09

For Ground Water Use Only

Temp. Blacked 11/11/11

Temp: Blank 25.5°C

Relinquished by / Signature	Date/Time
Received by / Signature	Date/Time
Relinquished by / Signature	Date/Time
Received by / Signature	Date/Time
Relinquished by / Signature	Date/Time
Received by / Signature	Date/Time
Relinquished by / Signature	Date/Time
Received by / Signature	Date/Time

Temp. Requirement

Where required, submitted samples were transported in coolers maintained at  $< 6^{\circ}\text{C}$ .

Yes ☒ No ☐

lot *KL*

\*Preservatives

\*Hg, Metals (pH<2 - HNO3) (Clean metals check in section)

\*O&G (pH<2 - HCl, check in section) & store < 6 °C

CN<sup>-</sup> (pH>12 - NaOH) & store ≤ 6 °C

\*Sulfide (pH>9 - NaOH+ZnAc) & store < 6 °C

\*Micro ( $\text{Na}_2\text{S}_2\text{O}_3 + \text{EDTA}$ ) & store  $< 10^\circ\text{C}$

\*COD. NUT. Phenols (pH<2 - H<sub>2</sub>SO<sub>4</sub>) & store < 6 °C

\*TOC (pH<2 - H<sub>3</sub>PO<sub>4</sub>) & store ≤ 6 °C

\*BOD, TSS, TVSS, Turbidity, Surfactant, Sulfate store  $< 6^{\circ}\text{C}$

\* NUT Non Acidified, Conductivity, Organics store  $\leq 6^{\circ}\text{C}$ 

\*Cr(VI) (pH 9.3 - 9.7 -  $(\text{NH}_4)_2\text{SO}_4$ ) & store  $\leq 6^\circ\text{C}$

All sample(s) met proper \*preservation requirements.

Yes ☒ No

Int 6471

Sample Type: C=Composite, G=Grab

Matric L= Liquid, S = Solid

CGN: Container Group Number

**NOTE: ALL APPLICABLE INFORMATION MUST BE COMPLETED PRIOR TO ACCEPTANCE.**





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## LABORATORY REPORT

This report contains 6 pages.  
(including the cover page)

If you have any questions concerning this report, please do not hesitate to call us at  
(800) 332-4345 or (574) 233-4777.

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Underwriters  
Laboratories

## Laboratory Report

Client: Hampton Roads Sanitation District

Report: 233375

Attn: Robin Parnell  
1432 Air Rail Avenue  
Virginia Beach, VA 23455

Priority: Standard Written

Status: Final

PWS ID: Not Supplied

Copies  
to: None

### Sample Information

UL ID #	Client ID	Method	Collected Date / Time	Collected By:	Received Date / Time
2144791	SC FNE	549.2	09/10/09 12:12	Client	09/15/09 08:30

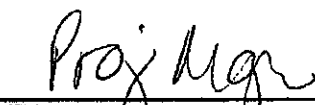
### Report Summary


Detailed quantitative results are presented on the following pages. The results presented relate only to the samples provided for analysis.

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call Traci Chlebowski at (574) 233-4777.

Note: This report may not be reproduced, except in full, without written approval from Underwriters Laboratories (UL).

  
Authorized Signature

  
Title

  
Date

Client Name: Hampton Roads Sanitation District  
Report #: 233375

Client Name: Hampton Roads Sanitation District

Report #: 233375

Sampling Point: SC FNE

PWS ID: Not Supplied

Semi-volatile Organic Chemicals									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed	UL ID #
85-00-7	Diquat	549.2	20 *	0.4	< 0.4	ug/L	09/16/09 09:20	09/16/09 13:53	2144791

† UL has demonstrated it can achieve these report limits in reagent water, but can not document them in all sample matrices.

Reg Limit Type:	MCL	SMCL	AL
Symbol:	*	^	



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South Bend, IN 46617  
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Batch # **233375**

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## CHAIN OF CUSTODY RECORD

Page **1** of **1**

REPORT TO: <b>HR50-</b>				SAMPLER (Signature)				STATE (of sample origin)		PWS ID#		PROJECT NAME		PO#		# OF CONTAINERS	MATRIX CODE	TURNAROUND TIME															
BILL TO: <b>Some</b>				COMPLIANCE MONITORING				Yes		No		POPULATION SERVED		SOURCE WATER																			
LAB Number				COLLECTION				SAMPLING SITE				TEST NAME		SAMPLE REMARKS					CHLORINATED														
				DATE				TIME				AM				PM				YES		NO											
1				2144791				9/10/09				1212				✓				SC FIVE				Diquat						1		21 days	
2																																	
3																																	
4																																	
5																																	
6																																	
7																																	
8																																	
9																																	
10																																	
11																																	
12																																	
13																																	
14																																	

RELINQUISHED BY: (Signature)		DATE		TIME		RECEIVED BY: (Signature)		DATE		TIME		LAB RESERVES THE RIGHT TO RETURN UNUSED PORTIONS OF NON-AQUEOUS SAMPLES TO CLIENT	
		9/14/09		1145								LAB COMMENTS	
RELINQUISHED BY: (Signature)		DATE		TIME		RECEIVED BY: (Signature)		DATE		TIME			
RELINQUISHED BY: (Signature)		DATE		TIME		RECEIVED FOR LABORATORY BY:		DATE		TIME		CONDITIONS UPON RECEIPT (check one):	
								9-15-09		0830		<input checked="" type="checkbox"/> Iced/Wet/Blue <input type="checkbox"/> Ambient <input type="checkbox"/> °C Upon Receipt <input type="checkbox"/> N/A	
MATRIX CODES:												TURN-AROUND TIME (TAT) - SURCHARGES	
DW-DRINKING WATER						SW = Standard Written: (15 working days)		0%				IV* = Immediate Verbal: (3 working days) 100%	
RW-REAGENT WATER						RV* = Rush Verbal: (5 working days)		50%				IW* = Immediate Written: (3 working days) 125%	
GW-GROUND WATER						RW* = Rush Written: (5 working days)		75%				SP* = Weekend, Holiday CALL	
EW-EXPOSURE WATER												STAT* = Less than 48 hours CALL	
SW-SURFACE WATER												UL-SBN-SHIP-F-002-09 Effective Date: 05/08/2009	
PW-POOL WATER													
WW-WASTE WATER													

Sample analysis will be provided according to the standard UL GSA/Water Services Terms, which are available upon request. Any other terms proposed by Customer are deemed material alterations and are rejected unless expressly agree to in writing by UL.

Samples received unannounced less than 48 hours holding time remaining may be subject to additional charges.



CONTRACT LABORATORY INFORMATION

CLIENT HRSD  
HRSD CONTACT Robin Parnell PHONE: 757-460-4203  
CONTRACT LAB UL  
CONTRACT LAB ADDRESS 110 S. Hill St, South Bend IN 46617  
CONTRACT LAB CONTACT Traci Chlebowski PHONE: 574-472-5567  
P.O./LSO # 376228 1-800-332-4345  
SAMPLE SHIP DATE  
CONTAINERS PROVIDED BY  
REQUIRED TURN AROUND TIME 21 days

SAMPLE INFORMATION

SAMPLE ID	SAMPLE DATE	ANALYSIS REQUIRED	METHOD CODE	HOLDING TIME	PRESERVATION
SC FNE	9/10/2009	Diquat	EPA 549.2	7 days	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> / H <sub>2</sub> SO <sub>4</sub> / ≤ 6 °

DATA REPORTING

WHOM DATA SHOULD BE REPORTED TO:

Kathy Hobson  
1432 Air Rail Ave  
Virginia Beach VA 23455  
[khobson@hrsd.com](mailto:khobson@hrsd.com)

FORMAT IN WHICH DATA SHOULD BE REPORTED:

Fax/email and hard copy (Fax/e-mail/etc. along with hard copy)

MAIL INVOICE TO:

Kathy Hobson  
1432 Air Rail Ave  
Virginia Beach VA 23455

NOTES

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Signed Hardcopy of Report Received  
Invoice Received

# **FIELD RECORD (S)**

# SCWWA Final Effluent Field Sheet

## Information To Be Checked Before The Start of Each Sampling Event

1. Does the Final Effluent have any abnormal characteristics (odor, color)? Y/☒N

If the answer to the above questions is NO proceed to the next section. Please contact a supervisor if the answer is YES.

2. A. Average Plant flow for the last five days: 9.2 MGD  
B. Expected Plant flow for the next 24 hours: 10.5 MGD (As per plant operator)
3. List the last three days of Final Effluent TSS with the most recent last: 0.5 mg/L
4. Contact Closure: (Expected Flow / 10,000 / 40) 10.5 MGD 26 Pulses per sample.
5. Samplers for Final Effluent & FB calibrated at 450 ml per sample. (Desired volume/10,000/40)  
Final Effluent Start Time / Date: 1212 090909  
FB Start Time / Date: 1212 090909

The above information has been completed prior to the beginning of the sampling event. Int. MLW

Sampling personnel: M. Wiggins, K. Curtis

## Information Check At The End Of The Sampling Event

1. Are all lids, compression assemblies and caps secure? ☒Y / N
2. Final Effluent TSS for the sampling period: NA
3. Plant flow for the sampling period 9.15 MGD
4. Number of samples collected in each Final Effluent & FB composite container:  
Final Effluent: 35  
FB: 35
5. Final Effluent & FB composite end time and date:  
Final Effluent End Time / Date: 1212 091009  
FB End Time / Date: 1212 091009
6. Is Temperature in collection container at the end of sampling  $<6^{\circ}\text{C}$ ? ☒Y / N
7. Are sample volumes equal in all composite containers? ☒Y / N
8. Grab times and dates:  
FB VOA: 1000 091009 FNE VOA: 1010 091009  
Oil & Grease: 1030 & 1035 091009 Cyanide: 1015 091009

Sampling personnel: M. Wiggins, K. Curtis

Please contact project lead with any problems incurred during the sampling event.

Record any other information that could affect sample results:

0.6 inches of rainfall on 090809.



## SCWWA Grab Field Sheet

### Information checked before the start of sampling event:

1. Average of the last five days FNE flow 10.88 mgd
2. List the last five days FNE TSS data with the most recent last 9/17-1.9, 9/20 2.8,  
9/22-2.9, 9/24-3.1, 9/27-3.3 mg/L
3. Sample event date and time 9/29/09 @ 1340
4. Does RWI have any abnormal characteristics (i.e., odor, color)? Y (N)  
(If yes, describe characteristics in the notes section below.)
5. Sampling personnel: B. Neckers, C. White

### Information checked at the end of sampling

1. Are all lids, valves and caps secure Y/N
2. FNE TSS for the sampling period 4.5 mg/L
3. FB grab end time / date:  
VOA: 9/29/09 @ 1350
4. FNE grab end time / date:  
VOA: 9/29/09 @ 1400  
FNE Cyanide (Free & Total): 9/29/09 @ 1410  
INF Cyanide (Free & Total): 9/29/09 @ 1440  
PE Cyanide (Free & Total): 9/29/09 @ 1455  
FC#3 FH Cyanide (Free & Total): 9/29/09 @ 1415  
FC#4 EG Cyanide (Free & Total): 9/29/09 @ 1425

Record any other circumstances which could affect the sample result:

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**04/13/10 and 04/14/10 - South Central Wastewater Authority  
Permit Application**  
This Analytical report contains 14 pages

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Christina Stokes  
Lab Mgr/Pretreatment Coordinator  
South Central Wastewater Authority  
900 Magazine Road  
Petersburg, VA 23803

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**cc: Alan Harrison, South Central Wastewater Authority**

---

**Date Sent: 04/30/10**

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HRSD is in the process of obtaining VELAP/NELAC accreditation from DCLS, the Division of Consolidated Laboratory Services. Analytical test results for methods listed on the laboratory's accreditation scope meet all requirements of VELAP/NELAC unless otherwise noted under the individual analysis.

Test results relate only to the sample tested. Clients should be aware that a critical step in chemical or microbiological analysis is the collection of the sample.

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If you have any questions concerning this report, please do not hesitate to call Danny Barker, TSD Environmental Scientist at (757) 460-4247, Robin Parnell, CEL Laboratory Manager at (757) 460-4203 or Cindi Reno, CEL Administrative Assistant at (757) 460-4205.

**SUBMITTED BY:**  
**Hampton Roads Sanitation District / HRSD**  
**Central Environmental Laboratory / CEL**  
**1432 Air Rail Avenue**  
**Virginia Beach, VA 23455-3002**





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**ANALYTICAL REPORT**

Project: South Central WWA- 2A Permit Application  
Customer Sample ID: Field Blank  
Project Code: SC  
Sample Point: FB  
Sample Date: 04/13/10  
Sample Date: 04/14/10

Analyte	Method	Unit	Result	Report Limit <sup>1</sup>	Analyst	Analysis Date	Analysis Time
<b><u>Dissolved Metals</u></b>							
Aluminum	EPA 200.7	ug/L	<50	50	SWILLI	04/20/10	10:19
Antimony	EPA 200.7	ug/L	<100	100	SWILLI	04/23/10	09:42
Arsenic	EPA 200.7	ug/L	<60	60	SWILLI	04/23/10	09:42
Barium	EPA 200.7	ug/L	<10	10	SWILLI	04/23/10	09:42
Beryllium	EPA 200.8	ug/L	<2	2	CBATO	04/22/10	13:31
Cadmium	EPA 200.8	ug/L	<0.50	0.50	CBATO	04/22/10	13:31
Chromium	EPA 200.7	ug/L	<10	10	SWILLI	04/23/10	11:23
Copper	EPA 200.8	ug/L	<2	2	CBATO	04/22/10	13:31
Iron	EPA 200.7	ug/L	<100	100	SWILLI	04/23/10	09:42
Lead	EPA 200.8	ug/L	<2.0	2.0	CBATO	04/22/10	13:31
Manganese	EPA 200.8	ug/L	<2.0	2.0	CBATO	04/22/10	13:31
Mercury	EPA 245.7	ng/L	<3.0	3.0	CBATO	04/23/10	12:52
Molybdenum	EPA 200.8	ug/L	<10	10	CBATO	04/22/10	13:31
Nickel	EPA 200.7	ug/L	<10	10	SWILLI	04/23/10	09:42
Selenium	EPA 200.8	ug/L	<2.0	2.0	CBATO	04/22/10	13:31
Silver	EPA 200.8	ug/L	<0.50	0.50	CBATO	04/22/10	13:31
Thallium	EPA 200.7	ug/L	<40	40	SWILLI	04/23/10	09:42
Zinc	EPA 200.7	ug/L	<20	20	SWILLI	04/23/10	09:42

**Notes:**

<sup>1</sup> Report Limit is lowest concentration at which quantitation is demonstrated.



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**ANALYTICAL REPORT**

**Project:** South Central WWA- 2A Permit Application  
**Customer Sample ID:** Field Blank  
**Project Code:** SC  
**Sample Point:** FB  
**Sample Date:** 04/13/10  
**Sample Date:** 04/14/10

Analyte	Method	Unit	Result	Report Limit <sup>1</sup>	Analyst	Analysis Date	Analysis Time
<b><u>Total Metals</u></b>							
Aluminum	EPA 200.7	ug/L	<50	50	SWILLI	04/20/10	10:23
Antimony	EPA 200.7	ug/L	<100	100	SWILLI	04/23/10	09:45
Arsenic	EPA 200.7	ug/L	<60	60	SWILLI	04/23/10	09:45
Barium	EPA 200.7	ug/L	<10	10	SWILLI	04/23/10	09:45
Beryllium	EPA 200.8	ug/L	<2	2	CBATO	04/22/10	13:37
Cadmium	EPA 200.8	ug/L	<0.50	0.50	CBATO	04/22/10	13:37
Chromium	EPA 200.7	ug/L	<10	10	SWILLI	04/23/10	11:26
Copper	EPA 200.8	ug/L	<2	2	CBATO	04/22/10	13:37
Iron	EPA 200.7	ug/L	<100	100	SWILLI	04/23/10	09:45
Lead	EPA 200.8	ug/L	<2.0	2.0	CBATO	04/22/10	14:52
Manganese	EPA 200.8	ug/L	<2.0	2.0	CBATO	04/22/10	13:37
Mercury	EPA 245.7	ng/L	<3.0	3.0	CBATO	04/23/10	12:49
Molybdenum	EPA 200.8	ug/L	<10	10	CBATO	04/22/10	13:37
Nickel	EPA 200.7	ug/L	<10	10	SWILLI	04/23/10	09:45
Selenium	EPA 200.8	ug/L	<2.0	2.0	CBATO	04/22/10	13:37
Silver	EPA 200.8	ug/L	<0.50	0.50	CBATO	04/22/10	13:37
Thallium	EPA 200.7	ug/L	<40	40	SWILLI	04/23/10	09:45
Zinc	EPA 200.7	ug/L	<20	20	SWILLI	04/23/10	09:45
<b><u>Volatile Organics</u></b>							
Acrolein	EPA 624	ug/L	<10.0	10.0	SLOPEZ	04/16/10	16:12
Acrylonitrile	EPA 624	ug/L	<10.0	10.0	SLOPEZ	04/19/10	15:45
Benzene	EPA 624	ug/L	<10.0	10.0	SLOPEZ	04/19/10	15:45
Bromoform	EPA 624	ug/L	<10.0	10.0	SLOPEZ	04/19/10	15:45
Carbon Tetrachloride	EPA 624	ug/L	<10.0	10.0	SLOPEZ	04/19/10	15:45
Chlorodibromomethane	EPA 624	ug/L	<10.0	10.0	SLOPEZ	04/19/10	15:45
Chloroethane	EPA 624	ug/L	<10.0	10.0	SLOPEZ	04/19/10	15:45
2-Chloro-ethylvinyl Ether	EPA 624	ug/L	<10.0	10.0	SLOPEZ	04/19/10	15:45
Chloroform	EPA 624	ug/L	<10.0	10.0	SLOPEZ	04/19/10	15:45

**Notes:**

<sup>1</sup> Report Limit is lowest concentration at which quantitation is demonstrated.



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## **ANALYTICAL REPORT**

**Project:** South Central WWA- 2A Permit Application  
**Customer Sample ID:** Field Blank  
**Project Code:** SC  
**Sample Point:** FB  
**Sample Date:** 04/13/10  
**Sample Date:** 04/14/10

Analyte	Method	Unit	Result	Report Limit <sup>1</sup>	Analyst	Analysis Date	Analysis Time
<b><u>Volatile Organics - continued</u></b>							
Dichlorobromomethane	EPA 624	ug/L	<10.0	10.0	SLOPEZ	04/19/10	15:45
1,2 Dichlorobenzene	EPA 624	ug/L	<10.0	10.0	SLOPEZ	04/19/10	15:45
1,3 Dichlorobenzene	EPA 624	ug/L	<10.0	10.0	SLOPEZ	04/19/10	15:45
1,4 Dichlorobenzene	EPA 624	ug/L	<10.0	10.0	SLOPEZ	04/19/10	15:45
1,1-Dichloroethane	EPA 624	ug/L	<10.0	10.0	SLOPEZ	04/19/10	15:45
1,2-Dichloroethane	EPA 624	ug/L	<10.0	10.0	SLOPEZ	04/19/10	15:45
1,1-Dichloroethylene	EPA 624	ug/L	<10.0	10.0	SLOPEZ	04/19/10	15:45
1,2-trans-Dichloroethylene	EPA 624	ug/L	<10.0	10.0	SLOPEZ	04/19/10	15:45
1,2-Dichloropropane	EPA 624	ug/L	<10.0	10.0	SLOPEZ	04/19/10	15:45
1,3 Dichloropropylene (1,3-Dichloropropene) <sup>2</sup>	EPA 624	ug/L	<20.0	20.0	SLOPEZ	04/19/10	15:45
Ethylbenzene	EPA 624	ug/L	<10.0	10.0	SLOPEZ	04/19/10	15:45
Methyl Bromide	EPA 624	ug/L	<10.0	10.0	SLOPEZ	04/19/10	15:45
Methyl Chloride	EPA 624	ug/L	<10.0	10.0	SLOPEZ	04/19/10	15:45
Methylene Chloride (Dichloromethane)	EPA 624	ug/L	<10.0	10.0	SLOPEZ	04/19/10	15:45
Monochlorobenzene (Chlorobenzene)	EPA 624	ug/L	<10.0	10.0	SLOPEZ	04/19/10	15:45
1,1,2,2-Tetrachloroethane	EPA 624	ug/L	<10.0	10.0	SLOPEZ	04/19/10	15:45
Tetrachloroethylene	EPA 624	ug/L	<10.0	10.0	SLOPEZ	04/19/10	15:45
Toluene	EPA 624	ug/L	<10.0	10.0	SLOPEZ	04/19/10	15:45
1,1,1-Trichloroethane	EPA 624	ug/L	<10.0	10.0	SLOPEZ	04/19/10	15:45
1,1,2-Trichloroethane	EPA 624	ug/L	<10.0	10.0	SLOPEZ	04/19/10	15:45
Trichloroethylene (Trichloroethene)	EPA 624	ug/L	<10.0	10.0	SLOPEZ	04/19/10	15:45
Vinyl Chloride	EPA 624	ug/L	<10.0	10.0	SLOPEZ	04/19/10	15:45
<b><u>Semi-Volatile Organics-Acid Extractables</u></b>							
p-Chloro-m-cresol	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:10
2-Chlorophenol	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:10
2,4 Dichlorophenol	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:10
2,4 Dimethylphenol	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:10
4,6-Dinitro-o-cresol (2-Methyl-4,6-dinitrophenol)	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:10
2,4-Dinitrophenol	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:10
2-Nitrophenol	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:10
4-Nitrophenol	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:10
Pentachlorophenol	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:10
Phenol	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:10
2,4,6 Trichlorophenol	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:10

### **Notes:**

<sup>1</sup> Report Limit is lowest concentration at which quantitation is demonstrated.

<sup>2</sup> 1,3-Dichloropropylene is the total of cis-1,3-Dichloropropylene and trans-1,3-Dichloropropylene.



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**ANALYTICAL REPORT**

Project: South Central WWA- 2A Permit Application  
Customer Sample ID: Field Blank  
Project Code: SC  
Sample Point: FB  
Sample Date: 04/13/10  
Sample Date: 04/14/10

Analyte	Method	Unit	Result	Report Limit <sup>1</sup>	Analyst	Analysis Date	Analysis Time
<b><u>Semi-Volatile Organics - Base Neutral Extractables - continued</u></b>							
Acenaphthene	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:10
Acenaphthylene	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:10
Anthracene	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:10
Benzidine	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:10
Benzo(a)anthracene	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:10
Benzo(a)pyrene	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:10
Benzo(b)fluoranthene	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:10
Benzo(k)fluoranthene	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:10
Benzo(ghi)Perylene	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:10
Bis-(2-chloroethyl)-Ether	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:10
Bis-(2-Chloroethoxy) Methane	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:10
Bis-2-(Chloroisopropyl) Ether	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:10
Bis-2-ethyl hexyl phthalate (Di-2-Ethylhexyl Phthlate)	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:10
4-Bromophenyl Phenyl Ether	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:10
Butyl benzyl phthalate	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:10
2-Chloronaphthalene	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:10
4-Chlorophenyl phenyl ether	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:10
Chrysene	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:10
Dibenzo(a,h) anthracene	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:10
Dibutyl phthalate (Di-n-butyl phthalate)	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:10
Di-n-octyl phthalate	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:10
3,3-Dichlorobenzidine	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:10
Diethyl phthalate	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:10
Dimethyl Phthalate	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:10
2,4-Dinitrotoluene	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:10
2,6-Dinitrotoluene	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:10
1,2-Diphenylhydrazine <sup>2</sup>	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:10
Fluoranthene	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:10
Fluorene	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:10
Hexachlorobenzene	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:10

**Notes:**

<sup>1</sup> Report Limit is lowest concentration at which quantitation is demonstrated.

<sup>2</sup> 1,2-Diphenylhydrazine gets converted to Azobenzene in the extraction process.



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**ANALYTICAL REPORT**

Project: South Central WWA- 2A Permit Application  
Customer Sample ID: Field Blank  
Project Code: SC  
Sample Point: FB  
Sample Date: 04/13/10  
Sample Date: 04/14/10

Analyte	Method	Unit	Result	Report Limit <sup>1</sup>	Analyst	Analysis Date	Analysis Time
<i><u>Semi-Volatile Organics - Base Neutral Extractables - continued</u></i>							
Hexachlorobutadiene	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:10
Hexachlorocyclopentadiene	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:10
Hexachloroethane	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:10
Indeno(1,2,3-cd)pyrene	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:10
Isophorone	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:10
Naphthalene	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:10
Nitrobenzene	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:10
N-Nitrosodi-n-propyl amine	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:10
N-Nitrosodimethylamine	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:10
N-Nitrosodiphenylamine <sup>2</sup>	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:10
Phenanthrene	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:10
Pyrene	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:10
1,2,4 Trichlorobenzene	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:10

**Notes:**

<sup>1</sup> Report Limit is lowest concentration at which quantitation is demonstrated.

<sup>2</sup> N-Nitrosodiphenylamine decomposes in the injection port to Diphenylamine.

Authorization: Reelin Parnell

Date: 4/29/10



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**ANALYTICAL REPORT**

Project: South Central WWA- 2A Permit Application  
 Customer Sample ID: Final Effluent  
 Project Code: SC  
 Sample Point: FNE  
 Sample Date: 04/13/10  
 Sample Date: 04/14/10 (Metals and Mercury Only)

Analyte	Method	Unit	Result	Report Limit <sup>1</sup>	Analyst	Analysis Date	Analysis Time
<b><u>Autochemistry</u></b>							
Ammonia-N w/Distillation	EPA 350.1	mg/L	<0.20	0.20	KSMITH	04/23/10	10:22
Nitrate/Nitrite-Nitrogen (NO <sub>x</sub> )	EPA 353.2	mg/L	9.19	0.20	VJOHNS	04/15/10	10:51
Cyanide	EPA 335.4	ug/L	10	10	AMOORE	04/14/10	13:00
Total Kjeldahl Nitrogen	EPA 351.2	mg/L	1.35	0.50	KSMITH	04/16/10	12:08
Oil and Grease HEM	EPA 1664A	mg/L	<5.0	5.0	RMORGA	04/15/10	06:45
Total Dissolved Solids	SM 2540C	mg/L	273	1	RCASTR	04/14/10	16:10
Total Phenol	EPA 420.4	mg/L	<0.05	0.05	AMOORE	04/23/10	08:48
Hardness (as CaCO <sub>3</sub> )	SM 2340B	mg eq CaCO <sub>3</sub> /L	52.6	0.2	SWILLI	04/20/10	10:30
<b><u>Dissolved Metals</u></b>							
Aluminum	EPA 200.7	ug/L	<50	50	SWILLI	04/20/10	10:58
Antimony	EPA 200.7	ug/L	<100	100	SWILLI	04/23/10	10:08
Arsenic	EPA 200.7	ug/L	<60	60	SWILLI	04/23/10	10:08
Barium	EPA 200.7	ug/L	15	10	SWILLI	04/23/10	10:08
Beryllium	EPA 200.8	ug/L	<2	2	CBATO	04/22/10	14:17
Cadmium	EPA 200.8	ug/L	<0.50	0.50	CBATO	04/22/10	14:17
Chromium	EPA 200.7	ug/L	<10	10	SWILLI	04/23/10	11:45
Copper	EPA 200.8	ug/L	7	2	CBATO	04/22/10	14:17
Iron	EPA 200.7	ug/L	<100	100	SWILLI	04/23/10	10:08
Lead	EPA 200.8	ug/L	<2.0	2.0	CBATO	04/22/10	14:17
Manganese	EPA 200.8	ug/L	17.7	2.0	CBATO	04/22/10	14:17
Mercury	EPA 245.7	ng/L	<3.0	3.0	CBATO	04/23/10	13:23
Molybdenum	EPA 200.8	ug/L	<10	10	CBATO	04/22/10	14:17
Nickel	EPA 200.7	ug/L	<10	10	SWILLI	04/23/10	10:08
Selenium	EPA 200.8	ug/L	<2.0	2.0	CBATO	04/22/10	14:17
Silver	EPA 200.8	ug/L	<0.50	0.50	CBATO	04/22/10	14:17
Thallium	EPA 200.7	ug/L	<40	40	SWILLI	04/23/10	10:08
Zinc	EPA 200.7	ug/L	39	20	SWILLI	04/23/10	10:08

**Notes:**

<sup>1</sup> Report Limit is lowest concentration at which quantitation is demonstrated.





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**ANALYTICAL REPORT**

Project: South Central WWA- 2A Permit Application  
Customer Sample ID: Final Effluent  
Project Code: SC  
Sample Point: FNE  
Sample Date: 04/13/10  
Sample Date: 04/14/10 (Metals and Mercury Only)

Analyte	Method	Unit	Result	Report Limit <sup>1</sup>	Analyst	Analysis Date	Analysis Time
<b><u>Total Metals</u></b>							
Aluminum	EPA 200.7	ug/L	<50	50	SWILLI	04/20/10	10:30
Antimony	EPA 200.7	ug/L	<100	100	SWILLI	04/23/10	09:48
Arsenic	EPA 200.7	ug/L	<60	60	SWILLI	04/23/10	09:48
Barium	EPA 200.7	ug/L	17	10	SWILLI	04/23/10	09:48
Beryllium	EPA 200.8	ug/L	<2	2	CBATO	04/22/10	13:42
Cadmium	EPA 200.8	ug/L	<0.50	0.50	CBATO	04/22/10	13:42
Chromium	EPA 200.7	ug/L	<10	10	SWILLI	04/23/10	11:28
Copper	EPA 200.8	ug/L	7	2	CBATO	04/22/10	13:42
Iron	EPA 200.7	ug/L	<100	100	SWILLI	04/23/10	09:48
Lead	EPA 200.8	ug/L	<2.0	2.0	CBATO	04/22/10	13:42
Manganese	EPA 200.8	ug/L	18.5	2.0	CBATO	04/22/10	13:42
Mercury	EPA 245.7	ng/L	<3.0	3.0	CBATO	04/23/10	13:02
Molybdenum	EPA 200.8	ug/L	<10	10	CBATO	04/22/10	13:42
Nickel	EPA 200.7	ug/L	<10	10	SWILLI	04/23/10	09:48
Selenium	EPA 200.8	ug/L	<2.0	2.0	CBATO	04/22/10	13:42
Silver	EPA 200.8	ug/L	<0.50	0.50	CBATO	04/22/10	13:42
Thallium	EPA 200.7	ug/L	<40	40	SWILLI	04/23/10	09:48
Zinc	EPA 200.7	ug/L	41	20	SWILLI	04/23/10	09:48
<b><u>Volatile Organics</u></b>							
Acrolein	EPA 624	ug/L	<50.0	50.0	SLOPEZ	04/16/10	16:40
Acrylonitrile	EPA 624	ug/L	<10.0	10.0	SLOPEZ	04/19/10	17:45
Benzene	EPA 624	ug/L	<10.0	10.0	SLOPEZ	04/19/10	17:45
Bromoform	EPA 624	ug/L	31.2	10.0	SLOPEZ	04/19/10	17:45
Carbon Tetrachloride	EPA 624	ug/L	<10.0	10.0	SLOPEZ	04/19/10	17:45
Chlorodibromomethane	EPA 624	ug/L	14.1	10.0	SLOPEZ	04/19/10	17:45
Chloroethane	EPA 624	ug/L	<10.0	10.0	SLOPEZ	04/19/10	17:45
2-Chloro-ethylvinyl Ether	EPA 624	ug/L	<10.0	10.0	SLOPEZ	04/19/10	17:45
Chloroform	EPA 624	ug/L	<10.0	10.0	SLOPEZ	04/19/10	17:45

**Notes:**

<sup>1</sup> Report Limit is lowest concentration at which quantitation is demonstrated.



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**ANALYTICAL REPORT**

Project: South Central WWA- 2A Permit Application  
 Customer Sample ID: Final Effluent  
 Project Code: SC  
 Sample Point: FNE  
 Sample Date: 04/13/10  
 Sample Date: 04/14/10 (Metals and Mercury Only)

Analyte	Method	Unit	Result	Report Limit <sup>1</sup>	Analyst	Analysis Date	Analysis Time
<b><u>Volatile Organics - continued</u></b>							
Dichlorobromomethane	EPA 624	ug/L	<10.0	10.0	SLOPEZ	04/19/10	17:45
1,2 Dichlorobenzene	EPA 624	ug/L	<10.0	10.0	SLOPEZ	04/19/10	17:45
1,3 Dichlorobenzene	EPA 624	ug/L	<10.0	10.0	SLOPEZ	04/19/10	17:45
1,4 Dichlorobenzene	EPA 624	ug/L	<10.0	10.0	SLOPEZ	04/19/10	17:45
1,1-Dichloroethane	EPA 624	ug/L	<10.0	10.0	SLOPEZ	04/19/10	17:45
1,2-Dichloroethane	EPA 624	ug/L	<10.0	10.0	SLOPEZ	04/19/10	17:45
1,1-Dichloroethylene	EPA 624	ug/L	<10.0	10.0	SLOPEZ	04/19/10	17:45
1,2-trans-Dichloroethylene	EPA 624	ug/L	<10.0	10.0	SLOPEZ	04/19/10	17:45
1,2-Dichloropropane	EPA 624	ug/L	<10.0	10.0	SLOPEZ	04/19/10	17:45
1,3 Dichloropropylene (1,3-Dichloropropene) <sup>2</sup>	EPA 624	ug/L	<20.0	20.0	SLOPEZ	04/19/10	17:45
Ethylbenzene	EPA 624	ug/L	<10.0	10.0	SLOPEZ	04/19/10	17:45
Methyl Bromide	EPA 624	ug/L	<10.0	10.0	SLOPEZ	04/19/10	17:45
Methyl Chloride	EPA 624	ug/L	<10.0	10.0	SLOPEZ	04/19/10	17:45
Methylene Chloride (Dichloromethane)	EPA 624	ug/L	<10.0	10.0	SLOPEZ	04/19/10	17:45
Monochlorobenzene (Chlorobenzene)	EPA 624	ug/L	<10.0	10.0	SLOPEZ	04/19/10	17:45
1,1,2,2-Tetrachloroethane	EPA 624	ug/L	<10.0	10.0	SLOPEZ	04/19/10	17:45
Tetrachloroethylene	EPA 624	ug/L	<10.0	10.0	SLOPEZ	04/19/10	17:45
Toluene	EPA 624	ug/L	<10.0	10.0	SLOPEZ	04/19/10	17:45
1,1,1-Trichloroethane	EPA 624	ug/L	<10.0	10.0	SLOPEZ	04/19/10	17:45
1,1,2-Trichloroethane	EPA 624	ug/L	<10.0	10.0	SLOPEZ	04/19/10	17:45
Trichloroethylene (Trichloroethene)	EPA 624	ug/L	<10.0	10.0	SLOPEZ	04/19/10	17:45
Vinyl Chloride	EPA 624	ug/L	<10.0	10.0	SLOPEZ	04/19/10	17:45
<b><u>Semi-Volatile Organics-Acid Extractables</u></b>							
p-Chloro-m-cresol	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:44
2-Chlorophenol	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:44
2,4 Dichlorophenol	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:44
2,4 Dimethylphenol	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:44
4,6-Dinitro-o-cresol (2-Methyl-4,6-dinitrophenol)	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:44
2,4-Dinitrophenol	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:44
2-Nitrophenol	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:44
4-Nitrophenol	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:44
Pentachlorophenol	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:44
Phenol	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:44
2,4,6 Trichlorophenol	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:44

**Notes:**

<sup>1</sup> Report Limit is lowest concentration at which quantitation is demonstrated.

<sup>2</sup> 1,3-Dichloropropylene is the total of cis-1,3-Dichloropropylene and trans-1,3-Dichloropropylene.



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**ANALYTICAL REPORT**

Project: South Central WWA- 2A Permit Application  
Customer Sample ID: Final Effluent  
Project Code: SC  
Sample Point: FNE  
Sample Date: 04/13/10  
Sample Date: 04/14/10 (Metals and Mercury Only)

Analyte	Method	Unit	Result	Report	Analyst	Analysis	Analysis
				Limit <sup>1</sup>		Date	Time
<b><u>Semi-Volatile Organics - Base Neutral Extractables</u></b>							
Acenaphthene	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:44
Acenaphthylene	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:44
Anthracene	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:44
Benztidine	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:44
Benzo(a)anthracene	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:44
Benzo(a)pyrene	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:44
Benzo(b)fluoranthene	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:44
Benzo(k)fluoranthene	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:44
Benzo(GH)Perylene	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:44
Bis-(2-chloroethyl)-Ether	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:44
Bis-(2-Chloroethoxy) Methane	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:44
Bis-2-(Chloroisopropyl) Ether	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:44
Bis-2-ethyl hexyl phthalate (Di-2-Ethylhexyl Phthlate)	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:44
4-Bromophenyl Phenyl Ether	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:44
Butyl benzyl phthalate	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:44
2-Chloronaphthalene	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:44
4-Chlorophenyl phenyl ether	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:44
Chrysene	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:44
Dibenzo(a,h) anthracene	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:44
Dibutyl phthalate (Di-n-butyl phthalate)	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:44
Di-n-octyl phthalate	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:44
3,3-Dichlorobenzidine	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:44
Diethyl phthalate	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:44
Dimethyl Phthalate	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:44
2,4-Dinitrotoluene	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:44
2,6-Dinitrotoluene	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:44
1,2-Diphenylhydrazine <sup>2</sup>	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:44
Fluoranthene	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:44
Fluorene	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:44
Hexachlorobenzene	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:44

**Notes:**

<sup>1</sup> Report Limit is lowest concentration at which quantitation is demonstrated.

<sup>2</sup> 1,2-Diphenylhydrazine gets converted to Azobenzene in the extraction process.



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**ANALYTICAL REPORT**

Project: South Central WWA- 2A Permit Application  
Customer Sample ID: Final Effluent  
Project Code: SC  
Sample Point: FNE  
Sample Date: 04/13/10  
Sample Date: 04/14/10 (Metals and Mercury Only)

Analyte	Method	Unit	Result	Report	Analyst	Analysis	Analysis
				Limit <sup>1</sup>		Date	Time
<u>Semi-Volatile Organics - Base Neutral Extractables - continued</u>							
Hexachlorobutadiene	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:44
Hexachlorocyclopentadiene	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:44
Hexachloroethane	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:44
Indeno(1,2,3-cd)pyrene	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:44
Isophorone	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:44
Naphthalene	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:44
Nitrobenzene	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:44
N-Nitrosodi-n-propyl amine	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:44
N-Nitrosodimethylamine	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:44
N-Nitrosodiphenylamine <sup>2</sup>	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:44
Phenanthrene	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:44
Pyrene	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:44
1,2,4 Trichlorobenzene	EPA 625	ug/L	<10.0	10.0	IGERAS	04/20/10	15:44

**Notes:**

<sup>1</sup> Report Limit is lowest concentration at which quantitation is demonstrated.

<sup>2</sup> N-Nitrosodiphenylamine decomposes in the injection port to Diphenylamine.

Authorization: Rolin Parnell

Date: 4/29/10

# QUALITY ASSURANCE REPORT

Level 1

Project: South Central WWA- 2A Permit Application  
 Customer Sample ID: Final Effluent  
 Project Code: SC  
 Sample Point: FNE  
 Sample Date: 04/13/10  
 Sample Date: 04/14/10

Analytical Run Information	Al	Sb	As	Ba	Be	Cd	Cr	Mn	Cu	Fe	Pb	Hg	Mo	Ni	Se	Ag	Tl	Zn
Method	200.7	200.7	200.7	200.7	200.8	200.8	200.7	200.8	200.8	200.7	200.8	245.7	200.8	200.7	200.8	200.8	200.7	200.7
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ng/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Method Detection Limit (MDL)	10	20	10	3	0.028	0.006	3	0.009	0.02	30	0.04	1.1	0.018	3	0.03	0.015	10	3
Report Limit (RL)	50	100	60	10	2	0.50	10	2	2	100	2.0	3.0	10	10	2.0	0.50	40	20
Average LRB	<10	<20	<10	<3	<0.028	<0.006	<3	<0.009	<0.02	<30	<0.04	<1.1	<0.018	<3	<0.02	<0.015	<10	5*
Total Metals	Al	Sb	As	Ba	Be	Cd	Cr	Mn	Cu	Fe	Pb	Hg	Mo	Ni	Se	Ag	Tl	Zn
Sample ID: SC FNE TOTAL																		
Matrix Spike Conc.	200	200	200	50	10	2.0	20	10	10	200	10.0	20.0	20	20	10.0	2.0	100	100
MS Percent Recovery	101%	104%	109%	99%	103%	100%	100%	101%	103%	93%	102%	99%	100%	100%	105%	94%	96%	104%
MSD Percent Recovery	102%	102%	107%	97%	105%	99%	100%	101%	98%	92%	99%	95%	102%	95%	101%	93%	98%	102%
MS/MSD RPD	<1	2	2	2	2	1	<1	<1	3	<1	2	5	1	4	4	1	2	1

LRB - Laboratory Reagent Blank

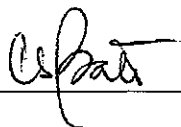
MS - Matrix Spike

MSD - Matrix Spike Duplicate

RPD - Relative Percent Difference

\*Report Limit is lowest concentration at which quantitation is demonstrated. Values below Report Limit should not be used for compliance determinations due to a high degree of uncertainty.

Validated By:



Date:

04/27/10



## CENTRAL ENVIRONMENTAL LABORATORY

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FAX: 757-460-6586

## CHAIN OF CUSTODY

PROJECT NAME/CODE: SCWWA VPDES 2A

## ANALYSES REQUESTED, CGN &amp; NUMBER OF CONTAINERS

CUSTOMER SAMPLE ID	PROJECT CODE	SAMPLE POINT	DATE	TIME	SAMPLED BY	MATRIX	SAMPLE TYPE	Total Metals (5)	Dissolved Metals (55)	Hg 245.7 (6)	Dissolved Hg 245.7 (66)	Semi Vol (8-9B)	Semi Vol (8-9F)	Nutrients Presd (7)	Nutrients Unpresd (17)	Ammonia (7)	VOA (10-10B)	VOA (10-10E)	Oil & Grease (8-8A)	Oil & Grease (8-8A)	Cyanide (4)	Total Phenol (3)	TDS (1)	Project in Lims? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	HRSD Use Only	
																									Pres'd Checked	CONT. COUNT
Field Blank	SC	FB	4/13/2010	1138	MW	L	C					3													✓	3
Field Blank	SC	FB	4/13/2010	1029	MW	L	G										3								✓	3
Final Effluent	SC	FNE	4/13/2010	1138	MW	L	G						7	1	1	1							1		✓	1
Final Effluent	SC	FNE	4/13/2010	1020	MW	L	G										6								✓	6
Final Effluent	SC	FNE	4/13/2010	1045	MW	L	G											2							✓	2
Final Effluent	SC	FNE	4/13/2010	1050	MW	L	G												2						✓	2
Final Effluent	SC	FNE	4/13/2010	1035	MW	L	G													1					✓	1
Final Effluent	SC	FNE	4/13/2010	1035	MW	L	G															1			✓	1

COMMENTS:

For Ground Water Use Only

Temp. Blank

Temp. Blank

Temp. Blank

Relinquished by / Signature	Date/Time	Temp. Requirement	*Preservatives
Received by / Signature	Date/Time	Where required, submitted samples were transported in coolers maintained at $\leq 6^{\circ}\text{C}$ .	*Hg, Metals (pH<2 - HNO <sub>3</sub> ) (Clean metals check in section)
Relinquished by / Signature	Date/Time	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	*O&G (pH<2 - HCl, check in section) & store $\leq 6^{\circ}\text{C}$
Received by / Signature	Date/Time	Int <u>MW</u>	CN (pH>12 - NaOH) & store $\leq 6^{\circ}\text{C}$
Relinquished by / Signature	Date/Time		*Sulfide (pH>9 - NaOH+ZnAc) & store $\leq 6^{\circ}\text{C}$
Received by / Signature	Date/Time		*Micro (Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> + EDTA) & store $\leq 10^{\circ}\text{C}$
Relinquished by / Signature	Date/Time		*COD, NUT, Phenols (pH<2 - H <sub>2</sub> SO <sub>4</sub> ) & store $\leq 6^{\circ}\text{C}$
Received by / Signature	Date/Time		*TOC (pH<2 - H <sub>2</sub> PO <sub>4</sub> ) & store $\leq 6^{\circ}\text{C}$
			*BOD, TSS, TVSS, Turbidity, Surfactant, Sulfate store $\leq 6^{\circ}\text{C}$
			*NUT Non Acidified, Conductivity, Organics store $\leq 6^{\circ}\text{C}$
			*Cr (VI) (pH 9.3 - 9.7 - (NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub> ) & store $\leq 6^{\circ}\text{C}$

All sample(s) met proper \*preservation requirements. Yes ☒ No ☐ Int G/2/1

Sample Type: C=Composite, G=Grab

Matrix: L=Liquid, S=Solid

CGN: Container Group Number

NOTE: ALL APPLICABLE INFORMATION MUST BE COMPLETED PRIOR TO ACCEPTANCE.





## CENTRAL ENVIRONMENTAL LABORATORY

1432 AIR RAIL AVENUE  
VIRGINIA BEACH, VA 23455  
TEL: 757-460-4214  
FAX: 757-460-8588

## CHAIN OF CUSTODY

PROJECT NAME/CODE: SCWWA VPDES 2A

## ANALYSES REQUESTED, CGN &amp; NUMBER OF CONTAINERS

HRSD Use Only			Circle One		Circle One		ANALYSES REQUESTED, CGN & NUMBER OF CONTAINERS																Project in Lims?				
CUSTOMER SAMPLE ID	PROJECT CODE	SAMPLE POINT	DATE	TIME	SAMPLED BY	MATRIX	SAMPLE TYPE	Total Metals (5)	Dissolved Metals (56)	Hg 245.7 (6)	Dissolved Hg 245.7 (66)	Semi Vol (9-8B)	Semi Vol (9-9F)	Nutrients Presd (7)	Nutrients Unpresd (17)	Ammonia (7)	VOA (10-10B)	VOA (10-10E)	Oil & Grease (8-8A)	Oil & Grease (8-8A)	Cyanide (4)	Total Phenol (3)			Yes	No	
Field Blank	SC	FB	04/14/10	1143	MM	L	C	1	1	1	1																
Final Effluent	SC	FNE	04/14/10	1143	MM	L	C	1	1	1	1																

COMMENTS:

Temp. Requirement		*Preservatives
Relinquished by / Signature <i>[Signature]</i>	Date/Time 04/14/10 1155	*Hg, Metals (pH<2 - HNO3) (Clean metals check in section)
Received by / Signature <i>[Signature]</i>	Date/Time 4/14/10 1525	*O&G (pH<2 - HCl, check in section) & store ≤ 6 °C
Relinquished by / Signature	Date/Time	CN (pH>12 - NaOH) & store ≤ 6 °C
Received by / Signature	Date/Time	*Sulfide (pH>9 - NaOH+ZnAc) & store ≤ 6 °C
Relinquished by / Signature	Date/Time	*Micro (Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> + EDTA) & store < 10 °C
Received by / Signature	Date/Time	*COD, NUT, Phenols (pH<2 - H <sub>2</sub> SO <sub>4</sub> ) & store ≤ 6 °C
Relinquished by / Signature	Date/Time	*TOC (pH<2 - H <sub>3</sub> PO <sub>4</sub> ) & store ≤ 6 °C
Received by / Signature	Date/Time	*BOD, TSS, TVSS, Turbidity, Surfactant, Sulfate store < 6 °C
All sample(s) met proper *preservation requirements. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Int <i>[Signature]</i>		*NUT Non Acidified, Conductivity, Organics store ≤ 6 °C
		*Cr (VI) (pH 9.3 - 9.7 - (NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub> ) & store ≤ 6 °C

Sample Type: C=Composite, G=Grab

Matrix: L= Liquid, S = Solid

CGN: Container Group Number

NOTE: ALL APPLICABLE INFORMATION MUST BE COMPLETED PRIOR TO ACCEPTANCE.

# **FIELD RECORD (S)**



# SCWWA Final Effluent Field Sheet

## Information To Be Checked Before The Start of Each Sampling Event

1. Does the Final Effluent have any abnormal characteristics (odor, color)? Y ☒ N

If the answer to the above questions is NO proceed to the next section. Please contact a supervisor if the answer is YES.

2. A. Average Plant flow for the last five days: ~14.8 MGD  
B. Expected Plant flow for the next 24 hours: ~15.8 MGD (As per plant operator)
3. List the last three days of Final Effluent TSS with the most recent last: NA
4. Contact Closure: (Expected Flow / 10,000 / 40) 15.8 MGD ~40 Pulses per sample.
5. Samplers for Final Effluent & FB calibrated at 425 ml per sample. (Desired volume/10,000/40)  
Final Effluent Start Time / Date: 1138 041210  
FB Start Time / Date: 1138 041210

The above information has been completed prior to the beginning of the sampling event. Int. MLW

Sampling personnel: M. Wiggins, M. Turner

## Information Check At The End Of The Sampling Event

1. Are all lids, compression assemblies and caps secure? ☒ Y ☐ N
2. Final Effluent TSS for the sampling period: NA
3. Plant flow for the sampling period ~13.1 MGD
4. Number of samples collected in each Final Effluent & FB composite container:  
Final Effluent: 32  
FB: 32
5. Final Effluent & FB composite end time and date:  
Final Effluent End Time / Date: 1138 041310  
FB End Time / Date: 1138 041310
6. Is Temperature in collection container at the end of sampling  $<6^{\circ}\text{C}$ ? ☒ Y ☐ N \*
7. Are sample volumes equal in all composite containers? Y ☒ N
8. Grab times and dates:  
FB VOA: 1020 041310 FNE VOA: 1020 041310  
Oil & Grease: 1045/1050 041310 Cyanide: 1035 041310  
Total Phenol: 1035 041310

Sampling personnel: M. Wiggins, M. Turner

Please contact project lead with any problems incurred during the sampling event.

Record any other information that could affect sample results:

Totalizer start: 07961404 / Finish: 07974500 Total Flow 24hrs: ~13.1 MGD  
\* Metals Composite sampler malfunction @ ~2030 and over filled intermediate container. Metals Composite & FB reset and started on 041310 (see other field sheet).

# SCWWA Final Effluent Field Sheet

## Information To Be Checked Before The Start of Each Sampling Event

1. Does the Final Effluent have any abnormal characteristics (odor, color)? Y/☒ N

If the answer to the above questions is NO proceed to the next section. Please contact a supervisor if the answer is YES.

2. A. Average Plant flow for the last five days: ~14.1 MGD  
B. Expected Plant flow for the next 24 hours: ~15.8 MGD (As per plant operation)
3. List the last three days of Final Effluent TSS with the most recent last: NA, \_\_\_\_\_, \_\_\_\_\_
4. Contact Closure: (Expected Flow / 10,000 / 40 ) 15.8 MGD ~ 40 Pulses per sample.
5. Samplers for Final Effluent & FB calibrated at 300 ml per sample. (Desired volume/10,000/40 )  
Final Effluent Start Time / Date: 1143 041310  
FB Start Time / Date: 1143 041310

The above information has been completed prior to the beginning of the sampling event. Int. MLL

Sampling personnel: M. Wiggins, M. Turner, \_\_\_\_\_

## Information Check At The End Of The Sampling Event

1. Are all lids, compression assemblies and caps secure? ☒ Y / ☐ N
2. Final Effluent TSS for the sampling period: NA
3. Plant flow for the sampling period ~12.8 MGD
4. Number of samples collected in each Final Effluent & FB composite container:  
Final Effluent: 32  
FB: 32
5. Final Effluent & FB composite end time and date:  
Final Effluent End Time / Date: 1143 / 041410  
FB End Time / Date: 1143 / 041410
6. Is Temperature in collection container at the end of sampling  $<6^{\circ}\text{C}$ ? ☒ Y / ☐ N
7. Are sample volumes equal in all composite containers? ☒ Y / ☐ N
8. Grab times and dates:  
FB VOA: NA FNE VOA: NA  
Oil & Grease: NA Cyanide: NA  
Total Phenol: NA

Sampling personnel: M. Wiggins, R. Hart, \_\_\_\_\_

Please contact project lead with any problems incurred during the sampling event.

Record any other information that could affect sample results:

Totalizer start: 07974514 / Finish: 07987343 Total Flow 24hrs: ~12.8 MGD

METAL Composite & FB Only



2109A North Hamilton Street • Richmond, Virginia 23230 • Tel: (804) 358-8295 Fax: (804) 358-8297

## Certificate of Analysis

### Final Report

### Laboratory Order ID 11030418

Client Name: South Central Waste Water Authority  
900 Magazine Road  
Petersburg, Virginia 23803

Date Received: March 22, 2011  
Date Issued: March 28, 2011

Submitted To: Christina Stokes

Project Number: NA

Client Site I.D.: SCWA - FE

Purchase Order Contract 01570

### Sample Summary List

Laboratory Sample ID	Sample ID	Sample Date	Receive Date
11030418-001	032011-001-6	03/21/2011	03/22/2011

  
Ted Soyars

Laboratory Manager

### End Notes:

The test results listed in this report relate only to the samples submitted to the laboratory and as received by the Laboratory.

Unless otherwise noted, the test results for solid materials are calculated on a dry weight basis. Analyses for pH, dissolved oxygen, temperature, residual chlorine and sulfite that are performed in the laboratory do not meet NELAC requirements due to extremely short holding times. These analyses should be performed in the field. The results of field analyses performed by the Sampler included in the Certificate of Analysis are done so at the client's request and are not included in the laboratory's fields of certification nor have they been audited for adherence to a reference method or procedure.

The signature on the final report certifies that these results conform to all applicable NELAC standards unless otherwise specified. For a complete list of the Laboratory's NELAC certified parameters please contact customer service.

This report shall not be reproduced except in full without the expressed and written approval of an authorized representative of Air Water & Soil Laboratories, Inc.

032820111619





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## Certificate of Analysis

### Final Report

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Client Site I.D.: SCWA - FE

Purchase Order Contract 01570

### Analytical Results

Sample I.D.: 032011-001-6

Laboratory Sample I.D.: 11030418-001

Date/Time Sampled (Start/Stop): 03/20/11 07:00 to 03/21/11 07:00

Parameter	Method	Sample Results	Qual	Rep Limi	Samp Prep Date/Time	Analysis Date/Time	Analyst
Calcium	EPA200.7/R4.4	13.0 mg/L	0.05		03/23/2011 16:30	03/25/2011 16:20	MWL
Hardness (Calc)	SM18/2340B	44.5 mg/L	0.5		03/23/2011 16:30	03/28/2011 11:54	MWL
Magnesium	EPA200.7/R4.4	2.91 mg/L	0.01		03/23/2011 16:30	03/25/2011 16:20	MWL
Chloride	EPA300.0/R2.1	70.4 mg/L	1		03/24/2011 11:24	03/24/2011 11:24	CL
TDS	SM18/2540C	343 mg/L	10		03/25/2011 17:10	03/25/2011 17:10	MBL

### Summary of Analytical QC Batches

QC Batch ID	Method	Sample List
QC110325009	EPA300.0/R2.1	11030418-001
QC110328003	SM18/2340B	11030418-001
	EPA200.7/R4.4	
QC I	Parameter	Qualifier Comments
MSD	Calcium	M
QC110328013	SM18/2540C	11030418-001

### Qualifier Definitions

Qualifier	Description
M	Matrix spike recovery is outside established acceptance limits.





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**SCWA**

SCWA - FE

**11030418**

DUE: 5 Days

Recd: 03/22/11

### Sample Conditions Checklist



Opened by: (Initials)

JSW

Lab ID No.:

Date Cooler Opened:

3/22/11

YES NO N/A

1. How were samples received?

Fed Ex  
UPS  
Courier  
Walk In

☐  
☐  
☐  
☒

2. Were custody seals used?

☐ ☐ ☒

3. If yes, are custody seals unbroken and intact at the date and time of arrival?

☐ ☐ ☒

4. Are the custody papers filled out completely and correctly?

☒ ☐ ☐

5. Do all bottle labels agree with custody papers?

☒ ☐ ☐

6. Are the samples received on ice?

☒ ☐ ☐

7. Is the temperature blank or representative sample within acceptable limits?  
(above freezing to 6°C)

☒ ☐ ☐

8. Are all samples within holding time for requested laboratory tests?

☒ ☐ ☐

9. Is a sufficient amount of sample provided to perform the tests indicated?

☒ ☐ ☐

10. Are all samples in proper containers for the analyses requested?

☒ ☐ ☐

11. Are all samples appropriately preserved for the analyses requested?

☐ ☒ ☐

12. Are all volatile organic containers free of headspace?

☐ ☐ ☒

#### COMMENTS

Hardness split & preserved from sub-tainer w/ HNO<sub>3</sub> @ Lab.  
JSW 3/22/11



FACILITY NAME: SOUTH CENTRAL WASTEWATER AUTHORITY

VPDES PERMIT NUMBER: VA0025437

### VPDES SEWAGE SLUDGE PERMIT APPLICATION FORM

#### SCREENING INFORMATION

This application is divided into four sections. Section A pertains to all applicants. The applicability of Sections B, C and D depends on your facility's sewage sludge use or disposal practices. The information provided on this page will help you determine which sections to fill out.

1. All applicants must complete Section A (General Information).

2. Does this facility generate sewage sludge? ☒ Yes ☐ No

Does this facility derive a material from sewage sludge? ☐ Yes ☒ No

If you answered "Yes" to either, complete Section B (Generation Of Sewage Sludge or Preparation Of A Material Derived From Sewage Sludge).

3. Does this facility apply sewage sludge to the land? ☐ Yes ☒ No

Is sewage sludge from this facility applied to the land? ☒ Yes ☐ No

If you answer "No" to all above, skip Section C.

If you answered "Yes" to either, answer the following three questions:

a. Does the sewage sludge from this facility meet the ceiling concentrations, pollutant concentrations, Class A pathogen reduction requirements and one of the vector attraction reduction requirements 1-8, as identified in the instructions?  
☐ Yes ☒ No

b. Is sewage sludge from this facility placed in a bag or other container for sale or give-away for application to the land?  
☐ Yes ☒ No

c. Is sewage sludge from this facility sent to another facility for treatment or blending? ☐ Yes ☒ No

If you answered "No" to all three, complete Section C (Land Application Of Bulk Sewage Sludge).

If you answered "Yes" to a, b or c, skip Section C.

4. Do you own or operate a surface disposal site? ☐ Yes ☒ No

If "Yes", complete Section D (Surface Disposal).



FACILITY NAME: SOUTH CENTRAL WASTEWATER AUTHORITY

VPDES PERMIT NUMBER: VA0025437

**SECTION A. GENERAL INFORMATION**

*All applicants must complete this section.*

**1. Facility Information.**

- a. Facility name: SOUTH CENTRAL WASTEWATER AUTHORITY WWTP
- b. Contact person: L. ALAN HARRISON, P.E.  
Title: ASSISTANT EXECUTIVE DIRECTOR  
Phone: ( 804 ) 861-0111
- c. Mailing address:  
Street or P.O. Box: 900 MAGAZINE RD  
City or Town: PETERSBURG State: VA Zip: 23803
- d. Facility location:  
Street or Route #: 900 MAGAZINE RD  
County: \_\_\_\_\_  
City or Town: PETERSBURG State: VA Zip: 23803
- e. Is this facility a Class I sludge management facility? ☒ Yes ☐ No
- f. Facility design flow rate: 23 mgd
- g. Total population served: ~71,312
- h. Indicate the type of facility:  
☒ Publicly owned treatment works (POTW)  
☐ Privately owned treatment works  
☐ Federally owned treatment works  
☐ Blending or treatment operation  
☐ Surface disposal site  
☐ Other (describe): \_\_\_\_\_

**2. Applicant Information.** If the applicant is different from the above, provide the following:

- a. Applicant name: \_\_\_\_\_
- b. Mailing address:  
Street or P.O. Box: \_\_\_\_\_  
City or Town: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_
- c. Contact person: \_\_\_\_\_  
Title: \_\_\_\_\_  
Phone: ( \_\_\_\_\_ ) \_\_\_\_\_
- d. Is the applicant the owner or operator (or both) of this facility?  
☐ owner ☐ operator
- e. Should correspondence regarding this permit be directed to the facility or the applicant?  
☐ facility ☐ applicant

**3. Permit Information.**

- a. Facility's VPDES permit number (if applicable): VA0025437
- b. List on this form or an attachment, all other federal, state or local permits or construction approvals received or applied for that regulate this facility's sewage sludge management practices:
- | Permit Number: | Type of Permit: |
|----------------|-----------------|
| _____          | _____           |
| _____          | _____           |

FACILITY NAME: SOUTH CENTRAL WASTEWATER AUTHORITYVPDES PERMIT NUMBER: VA0025437

4. **Indian Country.** Does any generation, treatment, storage, application to land or disposal of sewage sludge from this facility occur in Indian Country?        Yes   X   No If "Yes", describe:

5. **Topographic Map.** Provide a topographic map or maps (or other appropriate maps if a topographic map is unavailable) that shows the following information. Maps should include the area one mile beyond all property boundaries of the facility:

- Location of all sewage sludge management facilities, including locations where sewage sludge is generated, stored, treated, or disposed.
- Location of all wells, springs, and other surface water bodies listed in public records or otherwise known to the applicant within 1/4 mile of the property boundaries.

6. **Line Drawing.** Provide a line drawing and/or a narrative description that identifies all sewage sludge processes that will be employed during the term of the permit including all processes used for collecting, dewatering, storing, or treating sewage sludge, the destination(s) of all liquids and solids leaving each unit, and all methods used for pathogen reduction and vector attraction reduction.

7. **Contractor Information.** Are any operational or maintenance aspects of this facility related to sewage sludge generation, treatment, use or disposal the responsibility of a contractor?   X   Yes        No

If "Yes", provide the following for each contractor (attach additional pages if necessary).

Name: RECYC SYSTEMS, INC

Mailing address:

Street or P.O. Box: P.O. BOX 52

City or Town: REMINGTON State: VA Zip: 22734

Phone: ( 540 ) 547-3300

Contractor's Federal, State or Local Permit Number(s) applicable to this facility's sewage sludge:

If the contractor is responsible for the use and/or disposal of the sewage sludge, provide a description of the service to be provided to the applicant and the respective obligations of the applicant and the contractor(s).

8. **Pollutant Concentrations.** Using the table below or a separate attachment, provide sewage sludge monitoring data for the pollutants which limits in sewage sludge have been established in 9 VAC 25-31-10 et seq. for this facility's expected use or disposal practices. All data must be based on three or more samples taken at least one month apart and must be no more than four and one-half years old.

POLLUTANT	CONCENTRATION (mg/kg dry weight)	SAMPLE DATE	ANALYTICAL METHOD	DETECTION LEVEL FOR ANALYSIS
Arsenic	<1.59	*	SW6010C	1.27 (1)
Cadmium	<1.52	*	SW6010C	1.27 (2)
Chromium	13.05	*	SW6010C	1.27 (3)
Copper	167	*	SW6010C	1.27 (4)
Lead	20.4	*	SW6010C	1.27 (5)
Mercury	0.456	*	SW7471A	0.020 (6)
Molybdenum	<4.48	*	SW6010C	1.27 (7)
Nickel	7.91	*	SW6010C	1.27 (8)
Selenium	<7.30	*	SW6010C	6.34 (9)
Zinc	278	*	SW6010C	1.27 (10)

\*All samples taken on odd months during 2010

FACILITY NAME: SOUTH CENTRAL WASTEWATER AUTHORITY

VPDES PERMIT NUMBER: VA0025437

9. **Certification.** Read and submit the following certification statement with this application. Refer to the instructions to determine who is an officer for purposes of this certification. Indicate which parts of the application you have completed and are submitting:

X Section A (General Information)

X Section B (Generation of Sewage Sludge or Preparation of a Material Derived from Sewage Sludge)

       Section C (Land Application of Bulk Sewage Sludge)

       Section D (Surface Disposal)

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Name and official title L. ALAN HARRISON, P.E., ASSISTANT EXECUTIVE DIRECTOR

Signature  Date Signed 5/4/11

Telephone number ( 804 ) 861-0111

Upon request of the department, you must submit any other information necessary to assess sewage sludge use or disposal practices at your facility or identify appropriate permitting requirements.

FACILITY NAME: SOUTH CENTRAL WASTEWATER AUTHORITY

VPDES PERMIT NUMBER: VA0025437

**SECTION B. GENERATION OF SEWAGE SLUDGE OR PREPARATION  
OF A MATERIAL DERIVED FROM SEWAGE SLUDGE**

*Complete this section if your facility generates sewage sludge or derives a material from sewage sludge*

**1. Amount Generated On Site.**

Total dry metric tons per 365-day period generated at your facility: 3346 dry metric tons

**2. Amount Received from Off Site.** If your facility receives sewage sludge from another facility for treatment, use or disposal, provide the following information for each facility from which sewage sludge is received. If you receive sewage sludge from more than one facility, attach additional pages as necessary.

- a. Facility name: \_\_\_\_\_
- b. Contact Person: \_\_\_\_\_  
Title: \_\_\_\_\_  
Phone: ( \_\_\_\_\_ ) \_\_\_\_\_
- c. Mailing address: \_\_\_\_\_  
Street or P.O. Box: \_\_\_\_\_  
City or Town: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_
- d. Facility location: \_\_\_\_\_  
(not P.O. Box) \_\_\_\_\_
- e. Total dry metric tons per 365-day period received from this facility: \_\_\_\_\_ dry metric tons
- f. Describe, on this form or on another sheet of paper, any treatment processes known to occur at the off-site facility, including blending activities and treatment to reduce pathogens or vector attraction characteristics:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**3. Treatment Provided at Your Facility.**

- a. Which class of pathogen reduction is achieved for the sewage sludge at your facility?  
\_\_\_\_ Class A    ☒ Class B    \_\_\_\_ Neither or unknown
- b. Describe, on this form or another sheet of paper, any treatment processes used at your facility to reduce pathogens in sewage sludge: SEE ATTACHED  
\_\_\_\_\_  
\_\_\_\_\_
- c. Which vector attraction reduction option is met for the sewage sludge at your facility?  
\_\_\_\_ Option 1 (Minimum 38 percent reduction in volatile solids)  
\_\_\_\_ Option 2 (Anaerobic process, with bench-scale demonstration)  
\_\_\_\_ Option 3 (Aerobic process, with bench-scale demonstration)  
\_\_\_\_ Option 4 (Specific oxygen uptake rate for aerobically digested sludge)  
\_\_\_\_ Option 5 (Aerobic processes plus raised temperature)  
☒ Option 6 (Raise pH to 12 and retain at 11.5)  
\_\_\_\_ Option 7 (75 percent solids with no unstabilized solids)  
\_\_\_\_ Option 8 (90 percent solids with unstabilized solids)  
\_\_\_\_ None or unknown
- d. Describe, on this form or another sheet of paper, any treatment processes used at your facility to reduce vector attraction properties of sewage sludge: SEE ATTACHED  
\_\_\_\_\_  
\_\_\_\_\_
- e. Describe, on this form or another sheet of paper, any other sewage sludge treatment activities, including blending, not identified in a - d above: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**4. Preparation of Sewage Sludge Meeting Ceiling and Pollutant Concentrations, Class A Pathogen Requirements and One of Vector Attraction Reduction Options 1-8 (EQ Sludge).**

*(If sewage sludge from your facility does not meet all of these criteria, skip Question 4.)*

- a. Total dry metric tons per 365-day period of sewage sludge subject to this section that is applied to the land:  
\_\_\_\_\_ dry metric tons
- b. Is sewage sludge subject to this section placed in bags or other containers for sale or give-away?  
\_\_\_\_\_ Yes \_\_\_\_\_ No

**5. Sale or Give-Away in a Bag or Other Container for Application to the Land.**

*(Complete this question if you place sewage sludge in a bag or other container for sale or give-away prior to land application. Skip this question if sewage sludge is covered in Question 4.)*

- a. Total dry metric tons per 365-day period of sewage sludge placed in a bag or other container at your facility for sale or give-away for application to the land: \_\_\_\_\_ dry metric tons
- b. Attach, with this application, a copy of all labels or notices that accompany the sewage sludge being sold or given away in a bag or other container for application to the land.

**6. Shipment Off Site for Treatment or Blending.**

*(Complete this question if sewage sludge from your facility is sent to another facility that provides treatment or blending. This question does not apply to sewage sludge sent directly to a land application or surface disposal site. Skip this question if the sewage sludge is covered in Questions 4 or 5. If you send sewage sludge to more than one facility, attach additional sheets as necessary.)*

- a. Receiving facility name: \_\_\_\_\_
- b. Facility contact: \_\_\_\_\_  
Title: \_\_\_\_\_  
Phone: ( \_\_\_\_\_ ) \_\_\_\_\_
- c. Mailing address:  
Street or P.O. Box: \_\_\_\_\_  
City or Town: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_
- d. Total dry metric tons per 365-day period of sewage sludge provided to receiving facility:  
\_\_\_\_\_ dry metric tons
- e. List, on this form or an attachment, the receiving facility's VPDES permit number as well as the numbers of all other federal, state or local permits that regulate the receiving facility's sewage sludge use or disposal practices:  
Permit Number: \_\_\_\_\_ Type of Permit: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- f. Does the receiving facility provide additional treatment to reduce pathogens in sewage sludge from your facility?  
\_\_\_\_\_ Yes \_\_\_\_\_ No  
Which class of pathogen reduction is achieved for the sewage sludge at the receiving facility?  
\_\_\_\_\_ Class A \_\_\_\_\_ Class B \_\_\_\_\_ Neither or unknown  
Describe, on this form or another sheet of paper, any treatment processes used at the receiving facility to reduce pathogens in sewage sludge: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- g. Does the receiving facility provide additional treatment to reduce vector attraction characteristics of the sewage sludge? \_\_\_\_\_ Yes \_\_\_\_\_ No  
Which vector attraction reduction option is met for the sewage sludge at the receiving facility?  
\_\_\_\_\_ Option 1 (Minimum 38 percent reduction in volatile solids)

FACILITY NAME: \_\_\_\_\_

VPDES PERMIT NUMBER: \_\_\_\_\_

- \_\_\_\_\_ Option 2 (Anaerobic process, with bench-scale demonstration)  
\_\_\_\_\_ Option 3 (Aerobic process, with bench-scale demonstration)  
\_\_\_\_\_ Option 4 (Specific oxygen uptake rate for aerobically digested sludge)  
\_\_\_\_\_ Option 5 (Aerobic processes plus raised temperature)  
\_\_\_\_\_ Option 6 (Raise pH to 12 and retain at 11.5)  
\_\_\_\_\_ Option 7 (75 percent solids with no unstabilized solids)  
\_\_\_\_\_ Option 8 (90 percent solids with unstabilized solids)  
\_\_\_\_\_ None unknown

Describe, on this form or another sheet of paper, any treatment processes used at the receiving facility to reduce vector attraction properties of sewage sludge: \_\_\_\_\_

- h. Does the receiving facility provide any additional treatment or blending not identified in f or g above?  
\_\_\_\_\_ Yes \_\_\_\_\_ No

If "Yes", describe, on this form or another sheet of paper, the treatment processes not identified in f or g above: \_\_\_\_\_

- i. If you answered "Yes" to f, g or h above, attach a copy of any information you provide to the receiving facility to comply with the "notice and necessary information" requirement of 9 VAC 25-31-530.G.  
j. Does the receiving facility place sewage sludge from your facility in a bag or other container for sale or give-away for application to the land? \_\_\_\_\_ Yes \_\_\_\_\_ No

If "Yes", provide a copy of all labels or notices that accompany the product being sold or given away.

- k. Will the sewage sludge be transported to the receiving facility in a truck-mounted watertight tank normally used for such purposes? \_\_\_\_\_ Yes \_\_\_\_\_ No. If "No", provide description and specification on the vehicle used to transport the sewage sludge to the receiving facility.

Show the haul route(s) on a location map or briefly describe the haul route below and indicate the days of the week and the times of the day sewage sludge will be transported.

\_\_\_\_\_

\_\_\_\_\_

**7. Land Application of Bulk Sewage Sludge.**

*(Complete Question 7.a if sewage sludge from your facility is applied to the land, unless the sewage sludge is covered in Questions 4, 5 or 6. Complete Question 7.b, c & d only if you are responsible for land application of sewage sludge.)*

- a. Total dry metric tons per 365-day period of sewage sludge applied to all land application sites:

3346 \_\_\_\_\_ dry metric tons

- b. Do you identify all land application sites in Section C of this application? \_\_\_\_\_ Yes \_\_\_\_\_ No

If "No", submit a copy of the Land Application Plan (LAP) with this application (LAP should be prepared in accordance with the instructions).

- c. Are any land application sites located in States other than Virginia? \_\_\_\_\_ Yes \_\_\_\_\_ No

If "Yes", describe, on this form or on another sheet of paper, how you notify the permitting authority for the States where the land application sites are located. Provide a copy of the notification.

\_\_\_\_\_

- d. Attach a copy of any information you provide to the owner or lease holder of the land application sites to comply with the "notice and necessary" information requirement of 9 VAC 25-31-530 F and/or H (Examples may be obtained in Appendix IV).

FACILITY NAME: \_\_\_\_\_

VPDES PERMIT NUMBER: \_\_\_\_\_

**8. Surface Disposal.***(Complete Question 8 if sewage sludge from your facility is placed on a surface disposal site.)*

a. Total dry metric tons per 365-day period of sewage sludge from your facility placed on all surface disposal sites: \_\_\_\_\_ dry metric tons

b. Do you own or operate all surface disposal sites to which you send sewage sludge for disposal?  
\_\_\_\_\_ Yes \_\_\_\_\_ No

If "No", answer questions c - g for each surface disposal site that you do not own or operate. If you send sewage sludge to more than one surface disposal site, attach additional pages as necessary.

c. Site name or number: \_\_\_\_\_

d. Contact person: \_\_\_\_\_

Title: \_\_\_\_\_

Phone: ( \_\_\_\_\_ ) \_\_\_\_\_

Contact is: \_\_\_\_\_ Site Owner \_\_\_\_\_ Site operator

e. Mailing address:

Street or P.O. Box: \_\_\_\_\_

City or Town: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

f. Total dry metric tons per 365-day period of sewage sludge from your facility placed on this surface disposal site: \_\_\_\_\_ dry metric tons

g. List, on this form or an attachment, the surface disposal site VPDES permit number as well as the numbers of all other federal, state or local permits that regulate the sewage sludge use or disposal practices at the surface disposal site:

Permit Number: \_\_\_\_\_ Type of Permit: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_**9. Incineration.** Sludge sent to Hopewell incinerator only if our pad is full - has not occurred yet*(Complete Question 9 if sewage sludge from your facility is fired in a sewage sludge incinerator.)*a. Total dry metric tons per 365-day period of sewage sludge from your facility fired in a sewage sludge incinerator: 0 dry metric tonsb. Do you own or operate all sewage sludge incinerators in which sewage sludge from your facility is fired?  
\_\_\_\_\_ Yes x No

If "No", answer questions c - g for each sewage sludge incinerator that you do not own or operate. If you send sewage sludge to more than one sewage sludge incinerator, attach additional pages as necessary.

c. Incinerator name or number: Hopewell Regional Wastewater Treatment Facilityd. Contact person: Mark HaleyTitle: DirectorPhone: ( 804 ) 541-2210Contact is: X Incinerator Owner X Incinerator Operator

e. Mailing address:

Street or P.O. Box: P.O. Box 969City or Town: Hopewell State: VA Zip: 23860f. Total dry metric tons per 365-day period of sewage sludge from your facility fired in this sewage sludge incinerator: 0 dry metric tons

g. List on this form or an attachment the numbers of all other federal, state or local permits that regulate the firing

FACILITY NAME: \_\_\_\_\_

VPDES PERMIT NUMBER: \_\_\_\_\_

of sewage sludge at this incinerator:

Permit Number:

VA0066630

PRO50735

Type of Permit:

VPDES Permit (Sludge Management Plan)

Federal Operating Permit (Air)

**10. Disposal in a Municipal Solid Waste Landfill.**

*(Complete Question 10 if sewage sludge from your facility is placed on a municipal solid waste landfill. Provide the following information for each municipal solid waste landfill on which sewage sludge from your facility is placed. If sewage sludge is placed on more than one municipal solid waste landfill, attach additional pages as necessary.)*

a. Landfill name: \_\_\_\_\_

b. Contact person: \_\_\_\_\_

Title: \_\_\_\_\_

Phone: ( \_\_\_\_\_ ) \_\_\_\_\_

Contact is: \_\_\_\_\_ Landfill Owner \_\_\_\_\_ Landfill Operator

c. Mailing address:

Street or P.O. Box: \_\_\_\_\_

City or Town: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

d. Landfill location.

Street or Route #: \_\_\_\_\_

County: \_\_\_\_\_

City or Town: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

e. Total dry metric tons per 365-day period of sewage sludge placed in this municipal solid waste landfill:

\_\_\_\_\_ dry metric tons

f. List, on this form or an attachment, the numbers of all federal, state or local permits that regulate the operation of this municipal solid waste landfill:

Permit Number:

Type of Permit:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

g. Does sewage sludge meet applicable requirements in the Virginia Solid Waste Management Regulation, 9 VAC 20-80-10 et seq., concerning the quality of materials disposed in a municipal solid waste landfill?

\_\_\_\_\_ Yes \_\_\_\_\_ No

h. Does the municipal solid waste landfill comply with all applicable criteria set forth in the Virginia Solid Waste Management Regulation, 9 VAC 20-80-10 et seq.? \_\_\_\_\_ Yes \_\_\_\_\_ No

i. Will the vehicle bed or other container used to transport sewage sludge to the municipal solid waste landfill be watertight and covered? \_\_\_\_\_ Yes \_\_\_\_\_ No

Show the haul route(s) on a location map or briefly describe the route below and indicate the days of the week and time of the day sewage sludge will be transported.

\_\_\_\_\_

\_\_\_\_\_



FACILITY NAME: \_\_\_\_\_

VPDES PERMIT NUMBER: \_\_\_\_\_

### SECTION C. LAND APPLICATION OF BULK SEWAGE SLUDGE

*Complete this section for sewage sludge that is land applied unless any of the following conditions apply:*

- *The sewage sludge meets the Table 1 ceiling concentrations, the Table 3 pollutant concentrations, Class A pathogen requirements and one of the vector attraction reduction options 1-8 (fill out B.4 instead) (EQ Sludge); or*
- *The sewage sludge is sold or given away in a bag or other container for application to the land (fill out B.5 instead); or*
- *You provide the sewage sludge to another facility for treatment or blending (fill out B.6 instead).*

*Complete Section C for every site on which the sewage sludge that you reported in B.7 is land applied.*

#### 1. Identification of Land Application Site.

- Site name or number: \_\_\_\_\_
- Site location (Complete i and ii)
  - Street or Route#: \_\_\_\_\_  
County: \_\_\_\_\_  
City or Town: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_
  - Latitude: \_\_\_\_\_ Longitude: \_\_\_\_\_  
Method of latitude/longitude determination  
\_\_\_\_ USGS map \_\_\_\_ Filed survey \_\_\_\_ Other
- Topographic map. Provide a topographic map (or other appropriate map if a topographic map is unavailable) that shows the site location.

#### 2. Owner Information.

- Are you the owner of this land application site? \_\_\_\_ Yes \_\_\_\_ No
- If "No", provide the following information about the owner:  
Name: \_\_\_\_\_  
Street or P.O. Box: \_\_\_\_\_  
City or Town: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
Phone: ( \_\_\_\_\_ ) \_\_\_\_\_

#### 3. Applier Information:

- Are you the person who applies, or who is responsible for application of, sewage sludge to this land application site?  
\_\_\_\_ Yes \_\_\_\_ No
- If "No", provide the following information for the person who applies the sewage sludge:  
Name: \_\_\_\_\_  
Street or P.O. Box: \_\_\_\_\_  
City or Town: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
Phone: ( \_\_\_\_\_ ) \_\_\_\_\_
- List, on this form or an attachment, the numbers of all federal, state or local permits that regulate the person who applies sewage sludge to this land application site:  
Permit Number: \_\_\_\_\_ Type of Permit: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

#### 4. Site Type. Identify the type of land application site from among the following:

\_\_\_\_ Agricultural land      \_\_\_\_ Reclamation site      \_\_\_\_ Forest  
\_\_\_\_ Public contact site      \_\_\_\_ Other (describe \_\_\_\_\_)

#### 5. Vector Attraction Reduction.

Are any vector attraction reduction requirements met when sewage sludge is applied to the land application site?

FACILITY NAME: \_\_\_\_\_

VPDES PERMIT NUMBER: \_\_\_\_\_

\_\_\_\_ Yes \_\_\_\_ No If "Yes", answer a and b.

a. Indicate which vector attraction reduction option is met:

\_\_\_\_ Option 9 (Injection below land surface)

\_\_\_\_ Option 10 (Incorporation into soil within 6 hours)

b. Describe, on this form or on another sheet of paper, any treatment processes used at the land application site to reduce the vector attraction properties of sewage sludge:

\_\_\_\_\_  
\_\_\_\_\_

**6. Cumulative Loadings and Remaining Allotments.**

*(Complete Question 6 only if the sewage sludge applied to this site since July 20, 1993 is subject to the cumulative pollutant loading rates (CPLRs) - see instructions.)*

a. Have you contacted DEQ or the permitting authority in the state where the sewage sludge subject to the CPLRs will be applied to ascertain whether bulk sewage sludge subject to the CPLRs has been applied to this site since July 20, 1993? \_\_\_\_ Yes \_\_\_\_ No

If "No", sewage sludge subject to the CPLRs may not be applied to this site.

If "Yes", provide the following information:

Permitting authority: \_\_\_\_\_

Contact person: \_\_\_\_\_

Phone: ( \_\_\_\_\_ ) \_\_\_\_\_

b. Based upon this inquiry, has bulk sewage sludge subject to the CPLRs been applied to this site since July 20, 1993? \_\_\_\_ Yes \_\_\_\_ No If "No", skip the rest of Question 6. If "Yes", answer questions c - e.

c. Site size, in hectares: \_\_\_\_\_ (one hectare = 2.471 acres)

d. Provide the following information for every facility other than yours that is sending or has sent sewage sludge subject to the CPLRs to this site since July 20, 1993. If more than one such facility sends sewage sludge to this site, attach additional pages as necessary.

Facility name: \_\_\_\_\_

Facility contact: \_\_\_\_\_

Title: \_\_\_\_\_

Phone: ( \_\_\_\_\_ ) \_\_\_\_\_

Mailing address.

Street or P.O. Box: \_\_\_\_\_

City or Town: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

e. Provide the total loading and allotment remaining, in kg/hectare, for each of the following pollutants:

	Cumulative loading	Allotment remaining
Arsenic	_____	_____
Cadmium	_____	_____
Copper	_____	_____
Lead	_____	_____
Mercury	_____	_____
Nickel	_____	_____
Selenium	_____	_____
Zinc	_____	_____

*Complete Questions 7-12 below only if you apply sewage sludge, or you are responsible for land application of sewage sludge. Information required by these questions may be prepared as attachments to this form. Skip the following questions if you contract land application to someone else (as indicated under Section A.7) who is responsible for the operation.*

FACILITY NAME: \_\_\_\_\_

VPDES PERMIT NUMBER: \_\_\_\_\_

**7. Sludge Characterization.** Use the table below or a separate attachment, provide at least one analysis for each parameter.

PCBs (mg/kg)	_____
pH (S. U.)	_____
Percent Solids (%)	_____
Ammonium Nitrogen (mg/kg)	_____
Nitrate Nitrogen (mg/kg)	_____
Total Kjeldahl Nitrogen (mg/kg)	_____
Total Phosphorus (mg/kg)	_____
Total Potassium (mg/kg)	_____
Alkalinity as CaCO <sub>3</sub> * (mg/kg)	_____

\* Lime treated sludge (10% or more lime by dry weight) should be analyzed for percent CaCO<sub>3</sub>.

**8. Storage Requirements.**

Existing and proposed sludge storage facilities must provide an estimated annual sludge balance on a monthly basis incorporating such factors as storage capacity, sludge production and land application schedule. Include pertinent calculations justifying storage requirements.

Proposed sludge storage facilities must also provide the following information:

- a. A sludge storage site layout on a 7.5 minute topographic quadrangle or other appropriate scaled map to show the following topographic features of the surrounding landscape to a distance of 0.25 mile. Clearly mark the property line.
  - 1) Water wells, abandoned or operating
  - 2) Surface waters
  - 3) Springs
  - 4) Public water supply(s)
  - 5) Sinkholes
  - 6) Underground and/or surface mines
  - 7) Mine pool (or other) surface water discharge points
  - 8) Mining spoil piles and mine dumps
  - 9) Quarry(s)
  - 10) Sand and gravel pits
  - 11) Gas and oil wells
  - 12) Diversion ditch(s)
  - 13) Agricultural drainage ditch(s)
  - 14) Occupied dwellings, including industrial and commercial establishments
  - 15) Landfills or dumps
  - 16) Other unlined impoundments
  - 17) Septic tanks and drainfields
  - 18) Injection wells
  - 19) Rock outcrops
- b. A topographic map of sufficient detail to clearly show the following information:
  - 1) Maximum and minimum percent slopes
  - 2) Depressions on the site that may collect water
  - 3) Drainageways that may attribute to rainfall run-on to or runoff from this site
  - 4) Portions of the site (if any) which are located with the 100-year floodplain and how the storage facility will be protected from flooding
- c. Data and specifications for the storage facility lining material.
- d. Plan and cross-sectional views of the storage facility.
- e. Depth from the bottom of the storage facility to the seasonal high water table and separation distance to the permanent water table.

**9. Land Area Requirements.** Provide calculations justifying the land area requirements for land application of sewage

**FACILITY NAME:** \_\_\_\_\_

**VPDES PERMIT NUMBER:** \_\_\_\_\_

sludge taking into consideration average soil productivity group, crop(s) to be grown and most limiting factor(s) of the sewage sludge, specifically Plant Available Nitrogen (PAN), Calcium Carbonate Equivalence (CCE), and metal loadings (CPLR sewage sludge only), where applicable. Relate PAN, CCE, and metal loadings to demonstrate the most limiting factor for land application.

- 10. Landowner Agreement Forms.** Provide a properly completed Sewage Sludge Application Agreement Form (attached) for each landowner if sewage sludge is to be applied onto land not owned by the applicant.

**11. Ground Water Monitoring.**

Are any ground water monitoring data available for this land application site? \_\_\_\_ Yes \_\_\_\_ No

If "Yes", submit the ground water monitoring data with this permit application. Also submit a written description of the well locations, approximate depth to ground water, and the ground water monitoring procedures used to obtain these data.

**12. Land Application Site Information.**

*(Complete Items a-d for sites receiving infrequent application - land application of sewage sludge up to the agronomic rate at a frequency of once in a 3 year period; complete Items a-h for sites receiving frequent application - land application of sewage sludge in excess of 70% the agronomic rate at a frequency greater than once in a 3 year period)*

- a. Provide a general location map for each county which clearly indicates the location of all the land application sites.
- b. For each land application site provide a site plan of sufficient detail to clearly show the concerned landscape features and associated buffer zones (See instructions). Provide a legend for each landscape feature and the net acreage for each field taking into account the proposed buffer zones.
- c. In order to ensure that land application of bulk sewage sludge will not impact federally listed threatened or endangered species or federally designated critical habitat, the applicant must notify the field office of the U. S. Department of the Interior, Fish and Wildlife Service (FWS), by a letter, the proposed land application activities with the identification of the land application sites. The address and phone number of FWS are provided below.

U.S. Fish and Wildlife Service  
Virginia Field Office  
P.O. Box 480  
White Marsh, VA 23183  
TEL: (804) 693-6694

Provide a copy of the notification letter with this application form.

- d. Provide a soil survey map, preferably photographically based, with the field boundaries clearly marked. (A USDA-SCS soil survey map should be provided, if available.)

Provide a detailed legend for each soil survey map which uses accepted USDA-SCS descriptions of the typifying pedon for each soil series (soil type). Complex associations may be described as a range of characteristics. Soil descriptions shall include as a minimum the following information.

- 1) Soil symbol
- 2) Soil series, textural phase and slope range
- 3) Depth to seasonal high water table
- 4) Depth to bedrock
- 5) Estimated soil productivity group (for the proposed crop rotation)

**Item e - h are required for sites receiving frequent application of sewage sludge**

- e. In order to verify the information provided in item d, characterize the soil at each land application site. Representative soil borings or test pits to a depth of five feet or to bedrock if shallower, are to be coordinated for the typifying pedon of each soil series (soil type). Soil descriptions shall include as a minimum the following information:
  - 1) Soil symbol
  - 2) Soil series, textural phase and slope range
  - 3) Depth to seasonal high water table
  - 4) Depth to bedrock
  - 5) Estimated soil productivity group (for the proposed crop rotation)
- f. Collect and analyze soil samples from each field, weighted to best represent each of the soil borings performed for Item e. Using the table below or a separate attachment, provide at least one analysis per sample for each of the

**FACILITY NAME:** \_\_\_\_\_

**VPDES PERMIT NUMBER:** \_\_\_\_\_

following parameters.

Soil Organic Matter (%)	_____
Soil pH (std. units)	_____
Cation Exchange Capacity (meq/100g)	_____
Total Nitrogen (ppm)	_____
Organic Nitrogen (ppm)	_____
Ammonia Nitrogen (ppm)	_____
Nitrate Nitrogen (ppm)	_____
Available Phosphorus (ppm)	_____
Exchangeable Potassium (mg/100g)	_____
Exchangeable Sodium (mg/100g)	_____
Exchangeable Calcium (mg/100g)	_____
Exchangeable Magnesium (mg/100g)	_____
Arsenic (ppm)	_____
Cadmium (ppm)	_____
Copper (ppm)	_____
Lead (ppm)	_____
Mercury (ppm)	_____
Molybdenum (ppm)	_____
Nickel (ppm)	_____
Selenium (ppm)	_____
Zinc (ppm)	_____
Manganese (ppm)	_____
Particle Size Analysis or USDA Textural Estimate (%)	_____

- g. Relate the crop nutrient needs to anticipated yields, soil productivity rating and the various fertilizer or nutrient sources from sludge and chemical fertilizers. Describe any specialized agronomic management practices which may be required as a result of high soil pH. If the sludge is expected to possess an unusually high CCE or other unusual properties, provide a description of any plant tissue testing, supplemental fertilization or intensive agronomic management practices which may be necessary.
- h. Using a narrative format and referencing any related charts, describe the proposed cropping system. Show how the crop rotation and management will be coordinated with the design of the land application system. Include any supplemental fertilization program, soil testing and the coordination of tillage practices, planting and harvesting schedules and timing of land application.

FACILITY NAME: \_\_\_\_\_

VPDES PERMIT NUMBER: \_\_\_\_\_

### SEWAGE SLUDGE APPLICATION AGREEMENT

This sewage sludge application agreement is made on this date \_\_\_\_\_ between \_\_\_\_\_, referred to here as "landowner", and \_\_\_\_\_, referred to here as the "Permittee".

Landowner is the owner of agricultural land shown on the map attached as Exhibit A and designated there as \_\_\_\_\_ ("landowner's land"). Permittee agrees to apply and landowner agrees to comply with certain permit requirements following application of sewage sludge on landowner's land in amounts and in a manner authorized by VPDES permit number \_\_\_\_\_ which is held by the Permittee.

Landowner acknowledges that the appropriate application of sewage sludge will be beneficial in providing fertilizer and soil conditioning to the property. Moreover, landowner acknowledges having been expressly advised that, in order to protect public health, the following site restrictions must be adhered to when sewage sludge receives Class B treatment for pathogen reduction:

1. Food crops with harvested parts that touch the sewage sludge/soil mixture and are totally above the land surface shall not be harvested for 14 months after application of sewage sludge;
2. Food crops with harvested parts below the surface of the land shall not be harvested for 20 months after application of sewage sludge when the sewage sludge remains on the land surface for four months or longer prior to incorporation into the soil;
3. Food crops with harvested parts below the surface of the land shall not be harvested for 38 months after application of sewage sludge when the sewage sludge remains on the land surface for less than four months prior to incorporation into the soil;
4. Food crops, feed crops, and fiber crops shall not be harvested for 30 days after application of sewage sludge;
5. Animals shall not be grazed on the land for 30 days after application of sewage sludge;
6. Turf grown on land where sewage sludge is applied shall not be harvested for one year after application of the sewage sludge when the harvested turf is placed on either land with a high potential for public exposure or a lawn, unless otherwise specified by the State Water Control Board;
7. Public access to land with a high potential for public exposure shall be restricted for one year after application of sewage sludge;
8. Public access to land with a low potential for public exposure shall be restricted for 30 days after application of sewage sludge.
9. Tobacco, because it has been shown to accumulate cadmium, should not be grown on landowner's land for three years following the application of sewage sludge borne cadmium equal to or exceeding 0.5 kilograms/hectare (0.45 pounds/acre).

Permittee agrees to notify landowner or landowner's designee of the proposed schedule for sewage sludge application and specifically prior to any particular application to landowner's land. This agreement may be terminated by either party upon written notice to the address specified below.

Landowner:

Permittee:

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Mailing Address

\_\_\_\_\_  
Mailing Address

FACILITY NAME: \_\_\_\_\_

VPDES PERMIT NUMBER: \_\_\_\_\_

#### SECTION D. SURFACE DISPOSAL

*Complete this section only if you own or operate a surface disposal site. Provide the information for each active sewage sludge unit.*

##### 1. Information on Active Sewage Sludge Units.

- a. Unit name or number: \_\_\_\_\_
- b. Unit location
  - i. Street or Route#: \_\_\_\_\_  
County: \_\_\_\_\_  
City or Town: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_
  - ii. Latitude: \_\_\_\_\_ Longitude: \_\_\_\_\_  
Method of latitude/longitude determination  
\_\_\_\_ USGS map \_\_\_\_ Filed survey \_\_\_\_ Other
- c. Topographic map. Provide a topographic map (or other appropriate map if a topographic map is unavailable) that shows the site location.
- d. Total dry metric tons of sewage sludge placed on the active sewage sludge unit per 365-day period:  
\_\_\_\_\_ dry metric tons.
- e. Total dry metric tons of sewage sludge placed on the active sewage sludge unit over the life of the unit:  
\_\_\_\_\_ dry metric tons.
- f. Does the active sewage sludge unit have a liner with a minimum hydraulic conductivity of  $1 \times 10^{-7}$  cm/sec?  
\_\_\_\_ Yes \_\_\_\_ No If "Yes", describe the liner or attach a description.  
\_\_\_\_\_  
\_\_\_\_\_
- g. Does the active sewage sludge unit have a leachate collection system? \_\_\_\_ Yes \_\_\_\_ No  
If "Yes", describe the leachate collection system or attach a description. Also, describe the method used for leachate disposal and provide the numbers of any federal, state or local permits for leachate disposal:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- h. If you answered "No" to either f or g, answer the following:  
Is the boundary of the active sewage sludge unit less than 150 meters from the property line of the surface disposal site? \_\_\_\_ Yes \_\_\_\_ No If "Yes", provide the actual distance in meters: \_\_\_\_\_
- i. Remaining capacity of active sewage sludge unit, in dry metric tons: \_\_\_\_\_ dry metric tons  
Anticipated closure date for active sewage sludge unit, if known: \_\_\_\_\_ (MM/DD/YYYY)  
Provide with this application a copy of any closure plan developed for this active sewage sludge unit.

##### 2. Sewage Sludge from Other Facilities.

Is sewage sludge sent to this active sewage sludge unit from any facilities other than yours? \_\_\_\_ Yes \_\_\_\_ No  
If "Yes", provide the following information for each such facility, attach additional sheets as necessary.

- a. Facility name: \_\_\_\_\_
- b. Facility contact: \_\_\_\_\_  
Title: \_\_\_\_\_  
Phone: ( \_\_\_\_\_ ) \_\_\_\_\_
- c. Mailing address:  
Street or P.O. Box: \_\_\_\_\_  
City or Town: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

FACILITY NAME: \_\_\_\_\_

VPDES PERMIT NUMBER: \_\_\_\_\_

- d. List, on this form or an attachment, the facility's VPDES permit number as well as the numbers of all other federal, state or local permits that regulate the facility's sewage sludge management practices:

Permit Number: \_\_\_\_\_

Type of Permit: \_\_\_\_\_

\_\_\_\_\_

- e. Which class of pathogen reduction is achieved before sewage sludge leaves the other facility?

\_\_\_\_\_ Class A \_\_\_\_\_ Class B \_\_\_\_\_ Neither or unknown

- f. Describe, on this form or on another sheet of paper, any treatment processes used at the other facility to reduce pathogens in sewage sludge: \_\_\_\_\_

\_\_\_\_\_

- g. Which vector attraction reduction option is achieved before sewage sludge leaves the other facility?

\_\_\_\_\_ Option 1 (Minimum 38 percent reduction in volatile solids)

\_\_\_\_\_ Option 2 (Anaerobic process, with bench-scale demonstration)

\_\_\_\_\_ Option 3 (Aerobic process, with bench-scale demonstration)

\_\_\_\_\_ Option 4 (Specific oxygen uptake rate for aerobically digested sludge)

\_\_\_\_\_ Option 5 (Aerobic processes plus raised temperature)

\_\_\_\_\_ Option 6 (Raise pH to 12 and retain at 11.5)

\_\_\_\_\_ Option 7 (75 percent solids with no unstabilized solids)

\_\_\_\_\_ Option 8 (90 percent solids with unstabilized solids)

\_\_\_\_\_ None or unknown

- h. Describe, on this form or another sheet of paper, any treatment processes used at the other facility to reduce vector attraction properties of sewage sludge: \_\_\_\_\_

\_\_\_\_\_

- i. Describe, on this form or another sheet of paper, any other sewage sludge treatment activities performed by the other facility that are not identified in e - h above: \_\_\_\_\_

\_\_\_\_\_

### 3. Vector Attraction Reduction.

- a. Which vector attraction reduction option, if any, is met when sewage sludge is placed on this active sewage sludge unit?

\_\_\_\_\_ Option 9 (Injection below land surface)

\_\_\_\_\_ Option 10 (Incorporation into soil within 6 hours)

\_\_\_\_\_ Option 11 (Covering active sewage sludge unit daily)

- b. Describe, on this form or another sheet of paper, any treatment processes used at the active sewage sludge unit to reduce vector attraction properties of sewage sludge: \_\_\_\_\_

\_\_\_\_\_

### 4. Ground Water Monitoring.

- a. Is ground water monitoring currently conducted at this active sewage sludge unit or are ground water monitoring data otherwise available for this active sewage sludge unit? \_\_\_\_\_ Yes \_\_\_\_\_ No

If "Yes", provide a copy of available ground water monitoring data. Also provide a written description of the well locations, the approximate depth to ground water, and the ground water monitoring procedures used to obtain these



**FACILITY NAME:** \_\_\_\_\_

**VPDES PERMIT NUMBER:** \_\_\_\_\_

data.

- b. Has a ground water monitoring program been prepared for this active sewage sludge unit?  
\_\_\_\_\_ Yes \_\_\_\_\_ No If "Yes", submit a copy of the ground water monitoring program with this application.
- c. Have you obtained a certification from a qualified ground water scientist that the aquifer below the active sewage sludge unit has not been contaminated? \_\_\_\_\_ Yes \_\_\_\_\_ No  
If "Yes", submit a copy of the certification with this application.

**5. Site-Specific Limits.**

Are you seeking site-specific pollutant limits for the sewage sludge placed on the active sewage sludge unit?  
\_\_\_\_\_ Yes \_\_\_\_\_ No If "Yes", submit information to support the request for site-specific pollutant limits with this application.



**City of Hopewell, Hopewell Regional Wastewater Treatment Facility**

Telephone: 804-541-2210

P. O. Box 969  
231 Hummel Ross Road  
Hopewell, VA 23860

Fax: 804-541-2441

**Indirect Wastewater Discharge Permit**

In accordance with City of Hopewell Code, Chapter 31 Sewers and Sewage Disposal, Article III Sewer Use Standards, Division 2 Discharge Permits, Section 31-81 Wastewater Hauler Discharge Permit:

South Central Wastewater Authority  
900 Magazine Road  
Petersburg, Virginia 23803  
804-861-0111 Ext. 202, fax 804-864-3254

is hereby authorized to discharge dewatered biosolids (% solids = 16 – 30 %) from the South Central Wastewater Authority (SCWWA) to the Hopewell Regional Wastewater Treatment Facility (HRWTF). Discharge will take place at the Hopewell Regional Wastewater Treatment Facility, 231 Hummel Ross Road, Hopewell Virginia at a location as directed by and scheduled through the operator in charge at HRWTF.

South Central Wastewater Authority shall use the manifest form provided by HRWTF for each load of sludge hauled to HRWTF for treatment. The current treatment cost is \$40.00 per wet ton. This cost is subject to change by action of the Director of HRWTF based on price increase of natural gas. HRWTF reserves the right to refuse delivery at any time when operational difficulties are encountered.

SCWWA will monitor each load of the dewatered biosolids for select pollutant characteristics and weight. These pollutant characteristics are shown in the **Wastewater Hauler Discharge Permit Monthly Monitoring Report** for SCWWA and attached to this permit. The weight of each load of dewatered biosolids will be determined by weighing the truck before and after discharge on a certified scale. The weight listed on the manifest form shall be an estimated weight. The original scale receipt for each load must accompany the **Wastewater Hauler Discharge Permit Monthly Monitoring Report** and will be the basis for billing. Failure to provide an original scale receipt for a load received for treatment at HRWTF will result in an estimate by HRWTF of the load weight, and that decision will be final. The **Wastewater Hauler Discharge Permit Monthly Monitoring Report** will be completed by SCWWA each month. The results will be submitted to the address below by the 10<sup>th</sup> of the month following the end of the preceding month:

*HRWTF  
P. O. Box 969  
Hopewell, VA 23860  
ATTN: Environmental Compliance Coordinator*

Sampling and analysis is to begin with the issuance of this permit.

This authority to discharge wastewater is granted until December 31, 2011 and is subject to revocation at the discretion of the HRWTF Director. All wastewater delivered to HRWTF for treatment must comply with applicable pretreatment standards which include the following:

- ❖ Wastewater haulers shall discharge all septage and other permitted wastewaters at the designated wastewater hauler dumping stations established by the Director.
- ❖ Wastewater haulers shall have a valid wastewater hauler discharge permit before discharging wastewaters into the Publicly Owned Treatment Works (POTW).



## City of Hopewell, Hopewell Regional Wastewater Treatment Facility

- ❖ Each load delivered to the wastewater dumping station must have a wastewater hauler manifest properly filled out and presented to the operator on duty. Each manifest will be signed by the authorized representative of the wastewater hauling company.
- ❖ All procedures for discharging, for cleanliness, and for general sanitary operation on City property as described by the director shall be strictly observed by all wastewater haulers delivering wastewaters to the POTW dumping stations.
- ❖ The source(s) of all wastewaters being hauled to the POTW shall be properly documented using the HRWTF manifest system.
- ❖ Wastewater from a domestic user shall not be mixed with wastewater from an industrial user. Vehicles hauling wastewater from an industrial user shall not be used to haul wastewater from a domestic user for disposal at the POTW.
- ❖ In addition to the enforcement provisions in the City of Hopewell Code, failure of a wastewater hauler to comply with the provisions of this permit and the Code shall be grounds for revocation of the haulers discharge permit by the Director.
- ❖ No industrial wastewater regulated by the CAA including, but not limited to provisions under 40 CFR 60 or 40 CFR 63, as a Group 1 wastewater or otherwise as a volatile organic compound-containing or hazardous air pollutant-containing wastewater required to be controlled under the provisions of the CAA shall be discharged to HRWTF without prior approval of the Director. For purposes of this condition, "required to be controlled under the provisions of the CAA" includes any special storage, conveyance, or handling of the wastewater and/or any fraction biodegradation that is required to be achieved.
  - The director may require the industrial user to submit such information as may be deemed necessary to evaluate the components of the wastewater including the submission of a wastewater discharge permit application.
  - The director may issue a wastewater discharge permit or modify an existing wastewater discharge permit in response to notification of the CAA regulated wastewater discharged by the industrial user.

APPROVED

  
Mark A. Haley, Director HRWTF

12-28-2010  
Date Issued

cc: HRWTF Environmental Manager  
HRWTF Operations Manager



## City of Hopewell, Hopewell Regional Wastewater Treatment Facility

- ❖ Representative wastewater samples from each load received at the POTW for treatment shall comply with pretreatment standards and requirements. Those applicable standards and requirements are shown in Tables 1, 2 and 3.

**Table 1**  
**Hazardous Waste Characteristic Limits (TCLP)**

Arsenic	5 mg/L
Barium	100 mg/L
Benzene	0.5 mg/L
Cadmium	1 mg/L
Carbon Tetrachloride	0.5 mg/L
Chlordane	0.03 mg/L
Chlorobenzene	100 mg/L
Chloroform	6 mg/L
Chromium	5 mg/L
o-Cresol	200 mg/L
m-Cresol	200 mg/L
p-Cresol	200 mg/L
Cresol	200 mg/L
2,4-D	10 mg/L
1,4-Dichlorobenzene	7.5 mg/L
1,2-Dichloroethane	0.5 mg/L
1,1-Dichloroethylene	0.7 mg/L
2,4-Dinitrotoluene	0.13 mg/L
Endrin	0.02 mg/L
Heptachlor	
Heptachlor (+ epoxide)	0.008 mg/L
Hexachlorobenzene	0.13 mg/L
Hexachloro-1,3-butadiene	0.5 mg/L
Hexachloroethane	3 mg/L
Lead	5 mg/L
Lindane	0.4 mg/L
Mercury	0.2 mg/L
Methoxychlor	10 mg/L
Methyl ethyl ketone	200 mg/L
Nitrobenzene	2 mg/L
Pentachlorophenol	100 mg/L
Pyridine	5 mg/L
Selenium	1 mg/L
Silver	5 mg/L
Tetrachloroethylene	0.7 mg/L
Toxaphene	0.5 mg/L
Trichloroethylene	0.5 mg/L
2,4,5-Trichlorophenol	400 mg/L
2,4,6-Trichlorophenol	2 mg/L
2,4,5-TP (Silvex)	1 mg/L
Vinyl Chloride	0.2 mg/L

**Table 2**  
**National Pretreatment Standards and Hazardous Waste Limitations**

pH	> 5.0 units
pH	< 12.5 units
Flash point	> 140° F

In no case shall the waste be defined as a hazardous waste (40 CFR § 261.3(a)).

**Table 3**  
**Local Limits: Based on Water Quality**

Copper	Not Limited
--------	-------------

(SCWWA is domestic sewage sludge regulated by sludge quality)

**Table 4**  
**Local Limits: Based on Sludge Quality**

Beryllium	150 mg/kg
Mercury	45.2 mg/kg
Lead	4998 mg/kg
Arsenic	172.8 mg/kg
Cadmium	312.6 mg/kg
Chromium	27898.7 mg/kg
Nickel	266381.9 mg/kg

- ❖ Each wastewater hauling vehicle shall be equipped to use the quick disconnect couplers at the wastewater hauler dumping station.



# City of Hopewell, Hopewell Regional Wastewater Treatment Facility

## Hopewell Regional Wastewater Treatment Facility, Indirect Wastewater Hauler Discharge Monitoring Report

South Central Wastewater Authority  
900 Magazine Road  
Petersburg, Virginia 23803

Month: \_\_\_\_\_

### HRWTF MONTHLY MONITORING REQUIREMENT TO DEMONSTRATE COMPLIANCE

Pollutant	Minimum Reported Value	Monthly Average Reported Value	Maximum Reported Value	Units	Number of Excursions	Sampling Frequency	Sample Type	Detection Limit	Number of Samples Collected
pH	Reported Permitted	5	12.5	Standard Units		Each Load	Grab		

### VOLUMES OF WASTEWATER DISCHARGED TO THE CITY OF HOPEWELL

Date	Tons	Date	Tons	Date	Tons	Date	Tons	Date	Tons
1		8		15		22		29	
2		9		16		23		30	
3		10		17		24		31	
4		11		18		25			
5		12		19		26			
6		13		20		27			
7		14		21		28		Total Tons	

\*\*\*\*\* ATTACH THE ORIGINAL WEIGHT SCALE RECEIPT FOR EACH LOAD DELIVERED \*\*\*\*\*

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person(s) who manage the system, or those persons directly responsible for gathering the information, I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature of Duly Authorized Representative \_\_\_\_\_

Date \_\_\_\_\_

Signature of Chief Technical Representative \_\_\_\_\_

Date \_\_\_\_\_

## SECTION 00500

### AGREEMENT

THIS AGREEMENT is dated as of the 2 day of July in the year 2008, by and between the South Central Wastewater Authority, Petersburg, Virginia (hereinafter called OWNER) and RECYC SYSTEMS, INC (FEIN 54-1264053) (hereinafter called CONTRACTOR).

OWNER and CONTRACTOR, in consideration of the mutual covenants hereinafter set forth, agree as follows:

#### Article 1. WORK

CONTRACTOR shall complete all work as specified or indicated in the Contract Documents based on the acceptance by OWNER of CONTRACTOR's bid.

The proposed Work is generally described as follows (strikethrough and initial work not included):

TASK NO. 1 – TRANSPORT AND LAND APPLICATION OF DEWATERED CLASS B ALKALINE STABILIZED WASTEWATER TREATMENT PLANT BIOSOLIDS

TASK NO. 2 – TRANSPORT AND LANDFILL DISPOSAL OF DEWATERED WASTEWATER TREATMENT BIOSOLIDS

TASK NO. 3 – TRANSPORT AND OFF-SITE CLASS A COMPOSTING OF DEWATERED WASTEWATER TREATMENT BIOSOLIDS

#### Article 2. ENGINEER

Hazen and Sawyer, P.C. is the ENGINEER representing the OWNER in the preparation of the Contract Documents. Hazen and Sawyer, P.C. is referred to in the Contract Documents as the ENGINEER.

#### Article 3. CONTRACT PRICE

OWNER shall pay CONTRACTOR for performance of the Work on a unit price basis as detailed on the Bid Form.

#### Article 4. PAYMENT PROCEDURES

CONTRACTOR shall submit Applications for Payment after removal of material from the site. Payments shall be made by OWNER within thirty (30) days of OWNER's receipt of invoice.

#### Article 5. CONTRACTOR'S REPRESENTATIONS

CONTRACTOR makes the following representations:

- 5.1 CONTRACTOR has familiarized himself with the nature and extent of the Contract Documents, Work, locality, and with all local conditions and federal, state and local laws, ordinances, rules and regulations that in any manner may affect cost, progress, or performance of the Work.

- 5.2 CONTRACTOR has studied carefully all reports of investigations and tests of latent physical conditions at the site that may affect cost, progress or performance of the Work which were relied upon by the ENGINEER in the preparation of the Contract Documents. CONTRACTOR agrees to assume the risk of all latent physical conditions at the site.
- 5.3 CONTRACTOR has made or caused to be made examinations, investigations and tests and studies of such reports and related data in addition to those referred to in paragraph 5.2 as he deems necessary for the performance of the Work at the Contract Price, within the Contract Time and in accordance with the other terms and conditions of the Contract Documents; and no additional examinations, investigations, tests, reports or similar data are or will be required by CONTRACTOR for such purposes.
- 5.4 CONTRACTOR has correlated the results of all such observations, examinations, investigations, tests, reports and data with the terms and conditions of the Contract Documents.
- 5.5 CONTRACTOR has given the ENGINEER written notice of all conflicts, errors or discrepancies that he has discovered in the Contract Documents and the written resolution thereof by the ENGINEER is acceptable to CONTRACTOR.
- 5.6 The business addresses of CONTRACTOR given herein are designated as the place to which all notices, letters, and other communication to CONTRACTOR will be mailed or delivered. The address of OWNER appearing herein is hereby designated as the place to all notices, letters, and other communication to OWNER shall be mailed or delivered. Either party may change its address at any time by an instrument in writing to the other party.

#### **Article 6. CONTRACT DOCUMENTS**

The Contract Documents which comprise the entire agreement between OWNER and CONTRACTOR are enumerated as follows:

- 6.1 This Agreement - (Pages 1 to 4, inclusive)
- 6.2 Insurance Certificate(s),
- 6.3 Contractor's Certification of Insuring Liability for Workers' Compensation (VWC Form 61A).
- 6.4 Notice of Award
- 6.5 Notice to Proceed
- 6.6 The complete text of the Project Manual
- 6.7 Addenda numbers   1   through   4   to the Contract Documents.
- 6.8 Contractors' Bid
- 6.9 Any and all documentation submitted by CONTRACTOR as required or contemplated by the provisions contained in the Contract Specifications referred to in paragraph 6.5 above.

- 6.10 Any modifications including Change Orders, duly delivered after execution of the Agreement.

There are no Contract Documents other than those listed above in Article 6. The Contract Documents may be amended to provide for additions, deletions, and revisions in the Work or to modify the terms and conditions as mutually agreed to by the parties to the Agreement.

#### **Article 7. MISCELLANEOUS**

- 7.1 No assignment by a party hereto of any rights under or interest in the Contract Documents will be binding on another party hereto without the written consent of the party sought to be bound; and specifically but without limitation, moneys that may become due and moneys that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.
- 7.2 OWNER and CONTRACTOR each binds himself, his partners, successors, assigns and legal representatives to the other party hereto, his partners, successors, assigns and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.
- 7.3 CONTRACTOR shall make payment to vendors, subcontractors, and suppliers promptly according to the Code of Virginia. Before final payment, any and all claims or liens incurred in and about this work shall be paid in full and a final release from each vendor, subcontractor and supplier shall be provided to OWNER.

#### **Article 8. FORCE MAJEURE**

- 8.1 Neither party shall be considered in default in the performance of its obligations hereunder to the extent that performance of such obligations is delayed, hindered or prevented by any cause which is beyond the reasonable control of such party (hereinafter called "Force Majeure"). Force Majeure includes but is not limited to any of the following, if reasonably beyond the control of the party claiming Force Majeure: delays caused by the other party, war (declared or undeclared), blockades, hostilities, riots, strikes, lockouts or other labor disturbances, epidemics, fires, storms, delays or interruptions in transportation, or any laws, regulations or ordinances of any government, governmental agency or court having or claiming to have jurisdiction over any part of the Contract, or any other causes (whether or not of kinds specifically mentioned herein). Notwithstanding anything in this Contract, Force Majeure does not include the Contractor's failure to obtain the necessary permits, licenses, exceptions, or other authorizations required to perform this Contract.
- 8.2 Either party hereto shall give notice promptly within seven (7) calendar days of the nature and extent of any Force Majeure claimed to delay, hinder, or prevent performance under this Contract. Failure to do so shall constitute a waiver of any right to claim the defense of Force Majeure hereunder.



IN WITNESS WHEREOF, the parties hereto have signed this Agreement. One counterpart each has been delivered to OWNER, ENGINEER, and CONTRACTOR. All portions of the Contract Documents have been signed or identified by OWNER and CONTRACTOR on their behalf.

CONTRACTOR:

Charles S. Foushee  
Charles S. Foushee  
President  
Name  
Title

SEAL:

ATTEST:

[Signature]  
Name

DATE:

Recyc Systems Tuesday 2008

South Central Wastewater Authority

BY:

[Signature]

L. Alan Harrison, P.E.  
Assistant Executive Director

SEAL:

ATTEST:

Jacque B. Hatcher  
Name

DATE:

July 7, 2008

JACQUE B. HATCHER  
Notary Public  
Commonwealth of Virginia  
My Commission Expires Nov 30, 2008

Address for giving notices CONTRACTOR

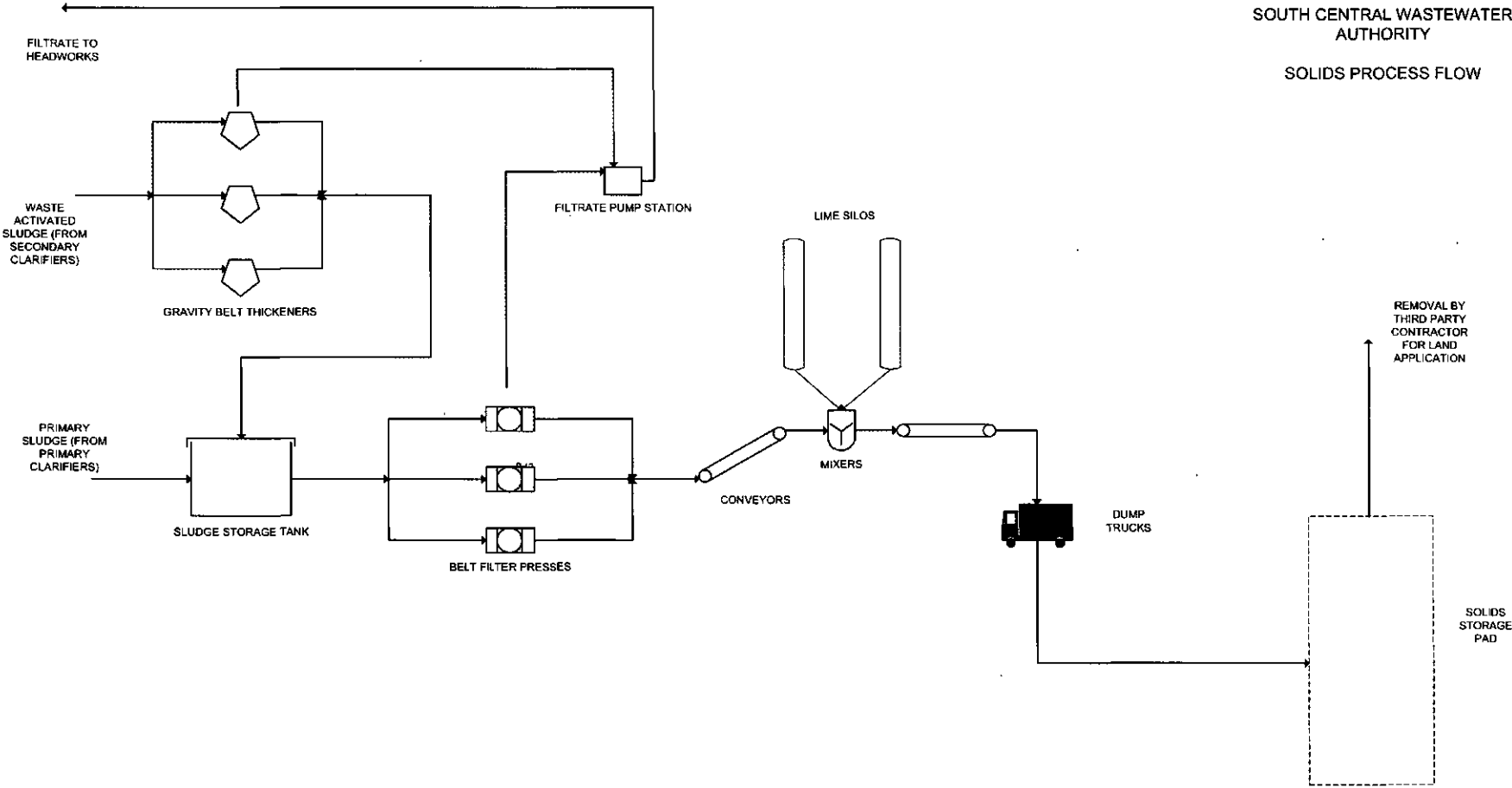
RECYC SYSTEMS, INC.  
P. O. Box 562  
Remington, VA 22734

Address for giving notices OWNER

South Central Wastewater Authority  
900 Magazine Road  
Petersburg, VA 23803

\*\*\* END OF SECTION \*\*\*

SOUTH CENTRAL WASTEWATER  
AUTHORITY  
SOLIDS PROCESS FLOW



Footnotes – A.8. – Reporting Limits

Note	Jan 2010	Mar 2010	May 2010	Jul 2010	Sep 2010	Nov 2010
(1)	1.27	1.35	1.37	1.51	1.6	1.67
(2)	1.27	1.35	1.37	1.51	1.6	1.67
(3)	1.27	1.35	1.37	1.51	1.6	1.67
(4)	1.27	1.35	1.37	7.56	1.6	1.67
(5)	1.27	1.35	1.37	1.51	1.6	1.67
(6)	0.020	0.022	0.022	0.024	0.026	0.027
(7)	1.27	6.74	1.37	1.51	1.6	1.67
(8)	1.27	1.35	1.37	1.51	1.6	1.67
(9)	6.34	6.74	6.84	7.56	7.99	8.35
(10)	1.27	1.35	1.37	7.56	1.6	1.67

All units in mg/kg

Description of how pathogen reduction and vector attraction reduction requirements are met at SCWWA:

The objectives of alkaline stabilization of solids are to substantially reduce the numbers of pathogenic organisms, thereby minimizing the health hazards of the solids, and to substantially reduce the numbers of odor producing organisms, thereby minimizing nuisance conditions caused by solids disposal. This is achieved by mixing the dewatered solids with lime, followed by transporting it by truck to a storage pad. A contractor removes sludge from the storage pad and land applies it.

The alkaline stabilization process adds sufficient lime to the dewatered solids to raise the pH of the mixture to 12 or more for 2 hours and maintains the pH level of 11.5 for 22 hours or more. The lime dosage is approximately 0.25 pounds of lime for each pound of dry solids. The chemical reaction between the solids and lime also results in elevated temperature of the solids. The combination of the elevated temperature and high pH normally destroys or inhibits pathogens and microorganisms involved in the decomposition of the solids. As an added benefit, the elevated temperatures remove a significant amount of excess water. Little or no biological decomposition occurs and few odors are produced by the alkaline stabilization process. The destruction of pathogenic organisms reduces bacterial hazards from the solids to a relatively safe level.

Solids disposal:

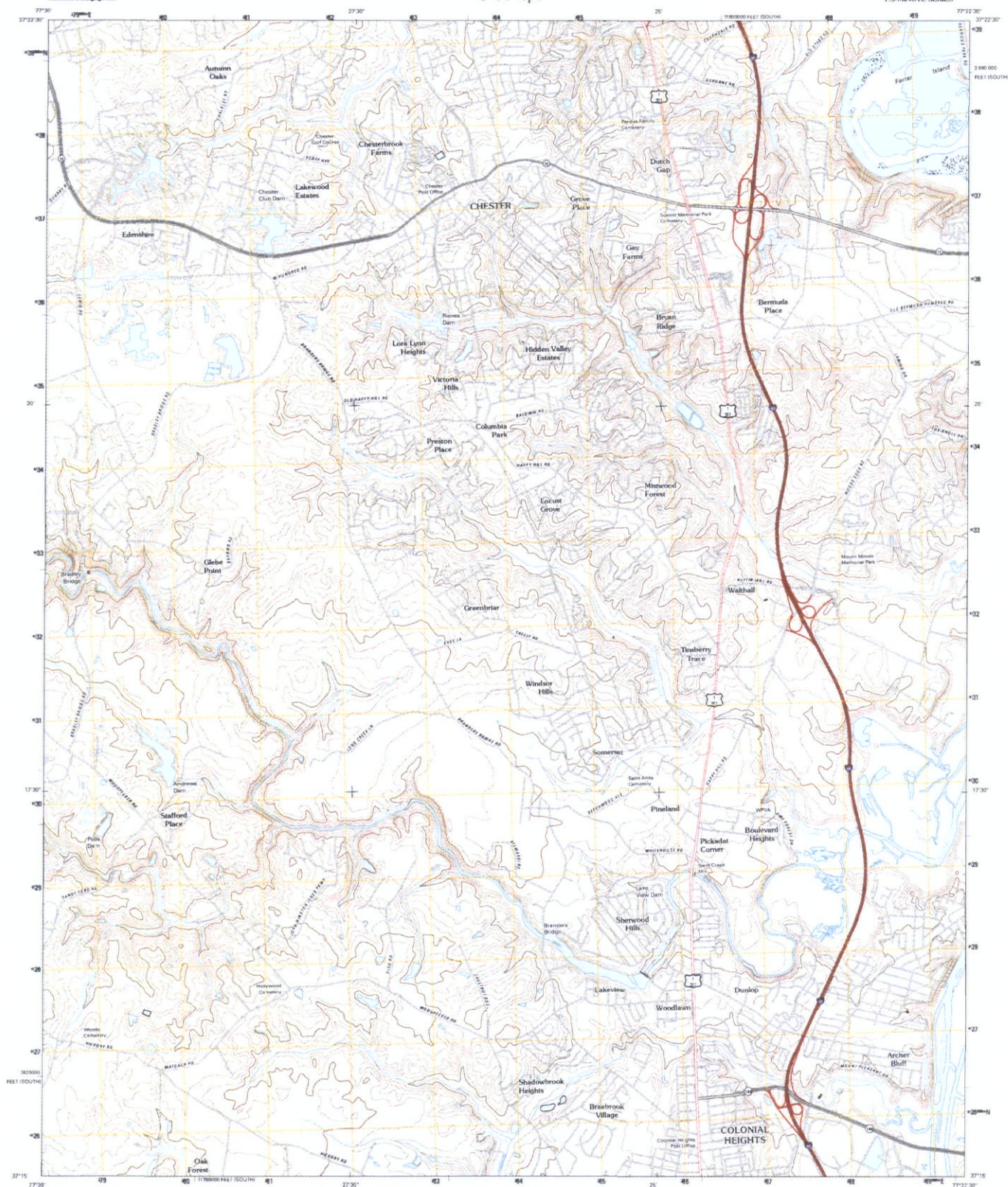
Solids are placed on a storage pad for removal and land application by a third party contractor (see attached contract). In the event the pad becomes full, a permit exists with the Hopewell Regional Wastewater Treatment Facility for incineration (see attached sample permit – renewed annually). This option requires solids not be lime stabilized prior to incineration. If both these options fail, the third party land application contractor can dispose of lime solids in a landfill (again, see attached contract).



U.S. DEPARTMENT OF THE INTERIOR  
U. S. GEOLOGICAL SURVEY

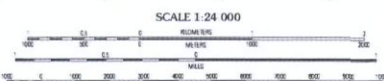


CHESTER QUADRANGLE  
VIRGINIA  
7.5-MINUTE SERIES



Produced by the United States Geological Survey  
North American Datum of 1983 (NAD83)  
Vertical Coordinate System of 1988 (GEOID88). Projection used  
1 000-meter grid. Universal Transverse Mercator, Zone 18S  
(20 000-meter datum). Vertical Coordinate System of 1988  
(mean sea)

Images: NADP, June 2009  
Blank: C2000-2010 Topo Atlas  
Hydrology: National Hydrography Dataset, 2009  
Contours: National Elevation Dataset, 1986



CONTOUR INTERVAL: 10 FEET  
NORTH AMERICAN DATUM OF 1983  
This map was produced in conformance with section 5.5.10 of the  
FBI (2002) Standards for 7.5-Minute Quadrangle Maps.  
A metadata file associated with this product is disk version 5.5.11.



ROAD CLASSIFICATION  
Interstate Route  
US Route  
Bypass  
State Route  
Local Road  
Bypass  
Interstate Route  
US Route  
State Route

CHESTER, VA  
2010

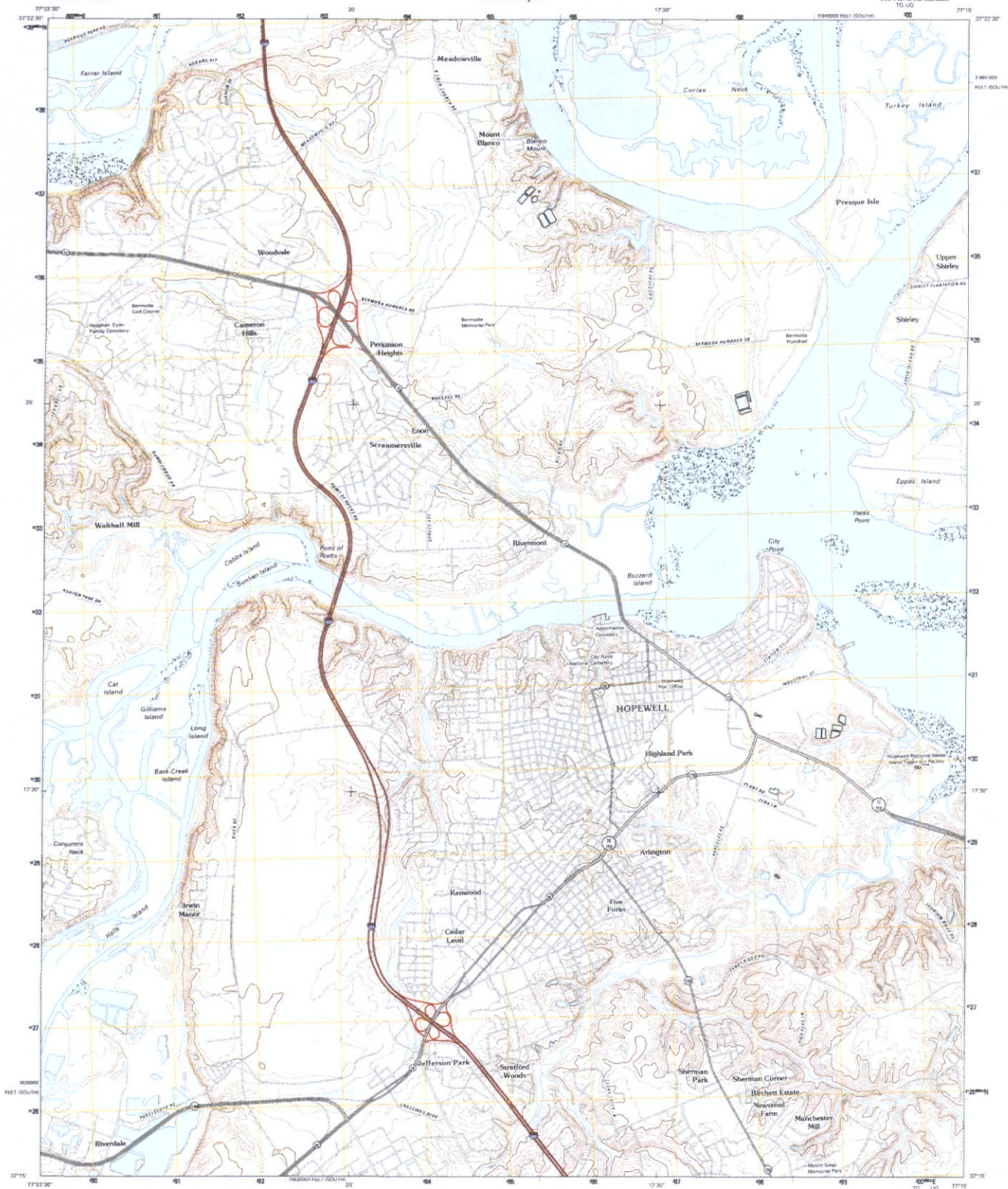




U.S. DEPARTMENT OF THE INTERIOR  
U.S. GEOLOGICAL SURVEY

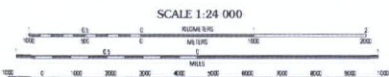
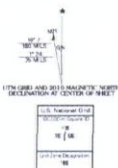


HOPEWELL QUADRANGLE  
VIRGINIA  
7.5-MINUTE SERIES



Produced by the United States Geological Survey  
North American Datum of 1983 (NAD83)  
World Geodetic System of 1984 (WGS84) Projection used  
2 000-meter grid. Contour Interval: 10 meters. Zone 18S  
10 000-foot scale. Virginia Coordinate System of 1985  
(North zone)

Source: NAD83, June 2009  
Data: GTOPO30, 2010; Topo Atlas  
System: GNS, 2008  
Hydrography: National Hydrographic Dataset, 2009  
Contours: National Elevation Dataset, 2008



SCALE 1:24 000  
CONTOUR INTERVAL 10 FEET  
NORTH AMERICAN DATUM OF 1983  
This map was produced in compliance with section 5.5.10 of the  
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A metadata file associated with this product is available online.



Quadrangle Location	County	State	County
	Staff	Line	Staff
	County	Staff	County
	County	Staff	County
	County	Staff	County
	County	Staff	County
	County	Staff	County
	County	Staff	County

ROAD CLASSIFICATION		
Interstate Route	State Route	Local Road
US Route	State Route	Local Road
Interstate Route	State Route	Local Road

HOPEWELL, VA  
2010



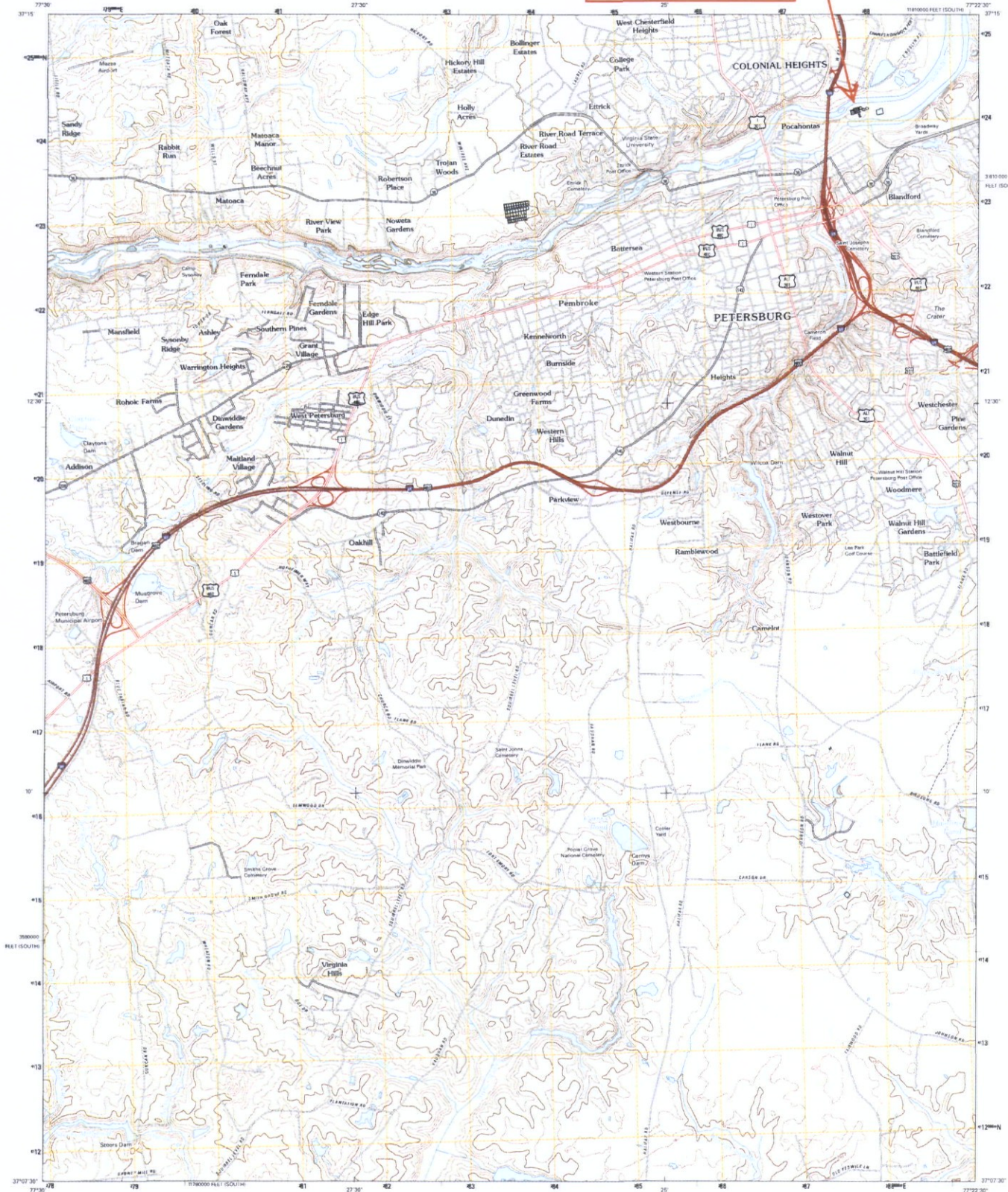


U.S. DEPARTMENT OF THE INTERIOR  
U. S. GEOLOGICAL SURVEY



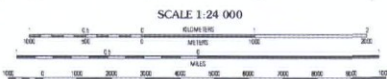
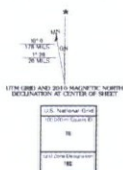
# South Central Wastewater Authority

PETERSBURG QUADRANGLE  
VIRGINIA  
7.5-MINUTE SERIES



Produced by the United States Geological Survey  
North American Datum of 1983 (NAD83)  
World Geodetic System of 1984 (WGS84). Projection and  
1:50,000 scale and United States National Map Series, Zone 18S,  
10 000-foot scale. Virginia Coordinate System of 1983  
(south east)

Images: NAD83 June 2009  
Roads: 2006 2010 Tele Atlas  
Names: 2006 2010 Tele Atlas  
Hydrography: National Hydrographic Dataset, 2009  
Contours: National Elevation Dataset, 2006



SCALE 1:24 000  
CONTOUR INTERVAL 10 FEET  
NORTH AMERICAN VERTICAL DATUM OF 1983  
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A revision to the standard with this product is draft version 6.5.11.



ROAD CLASSIFICATION  
Interstate Route  
US Route  
State Route  
Local Road  
Bypass  
Bypass

PETERSBURG, VA  
2010

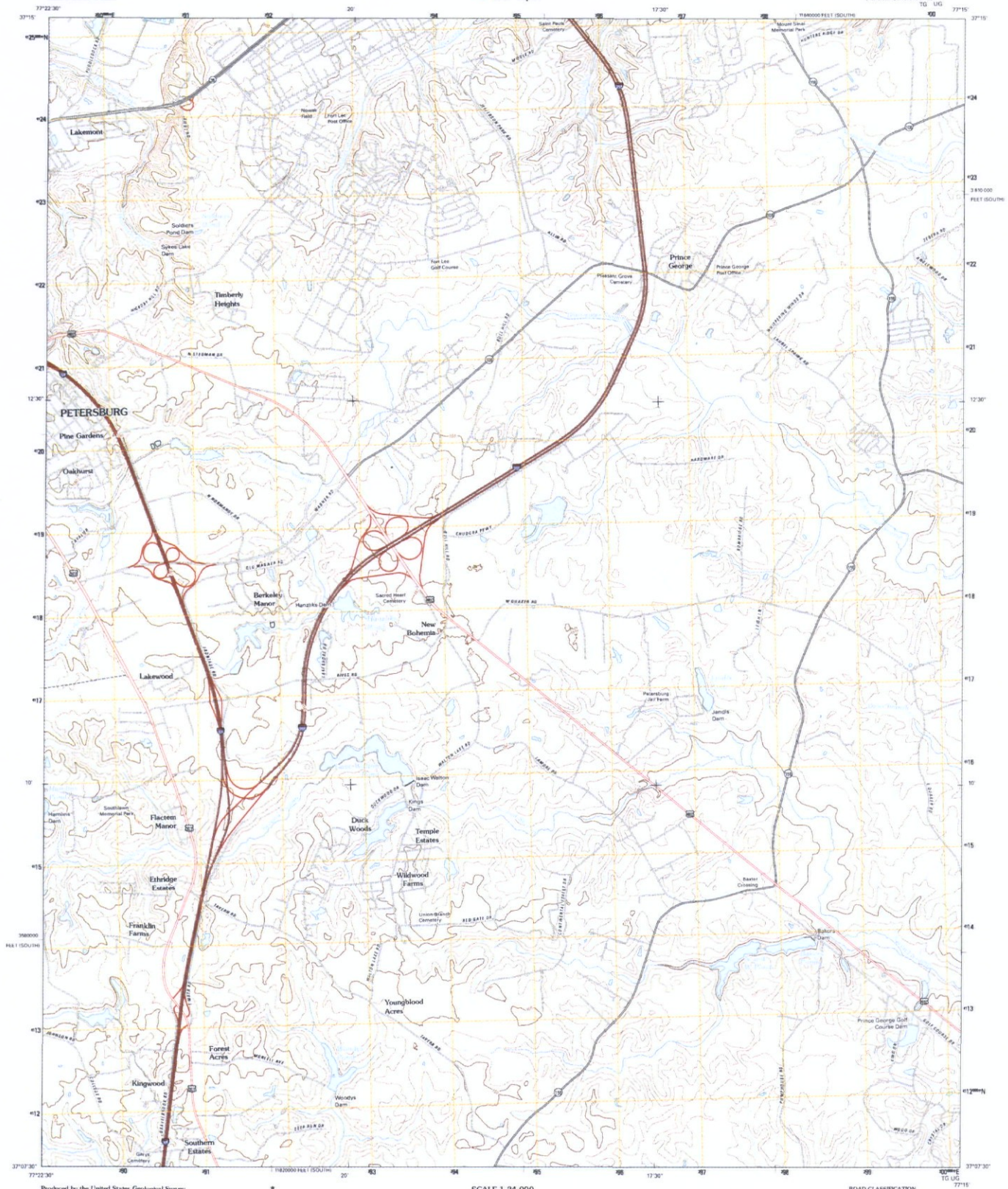




U.S. DEPARTMENT OF THE INTERIOR  
U. S. GEOLOGICAL SURVEY

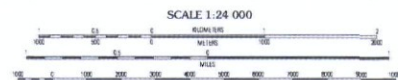
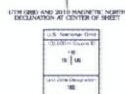


PRINCE GEORGE QUADRANGLE  
VIRGINIA  
7.5-MINUTE SERIES



Produced by the United States Geological Survey  
North American Datum of 1983 (NAD83)  
World Geodetic System of 1984 (WGS84) Projection and  
1 000 000 scale geoid Universal Transverse Mercator, Zone 18S  
20 000 000 scale Virginia Coordinate System of 1983  
(south zone)

Images: NAD, June 2009  
Roads: G2000-2010 T48 Atlas  
Names: G2000-2010 T48 Atlas  
Hydrography: National Hydrographic Dataset, 2009  
Contours: National Elevation Dataset, 2009



SCALE 1:24 000  
CONTOUR INTERVAL 10 FEET  
NORTH AMERICAN DATUM OF 1983  
This map was produced in conformance with version 5.5.10 of the  
final USGS Standards for 7.5-Minute Quadrangle Maps.  
A metadata file associated with this product is disk version 5.5.11.



ROAD CLASSIFICATION  
Interstate Route  
US Route  
State Route  
Local Road  
Interstate Route  
US Route  
State Route  
Local Road

PRINCE GEORGE, VA  
2010



PUBLIC NOTICE BILLING INFORMATION

I hereby authorize the Department of Environmental Quality to have the cost of publishing a public notice billed to the Agent/Department shown below. The public notice will be published once a week for two consecutive weeks in The Progress-Index in accordance with 9 VAC 25-31-290.C.2.

Agent/Department to be billed: South Central Wastewater Authority

Owner: South Central Wastewater Authority

Agent/Department Address: 900 Magazine Rd.

Petersburg, VA 23803

Agent's Telephone No.: (804) 861-0111 x202

Printed Name: L. Alan Harrison, P.E., Asst. Exec. Director

Authorizing Agent – Signature: 

Date: 5/4/11

VPDES Permit No. VA0025437  
South Central Wastewater Authority WWTF

Please complete and return to:

DEQ Piedmont Regional Office  
Attn: Andrew J. Hammond II, P.E.  
4949-A Cox Road  
Glen Allen, Virginia 23060